



Chapter 3

NAVSTA Norfolk Chambers Field

3.0 NAVSTA NORFOLK CHAMBERS FIELD

3.1 Background

NAVSTA Norfolk occupies approximately 3,400 acres of Hampton Roads real estate on a peninsula known as Sewells Point. NAVSTA Norfolk is the world's largest naval station. The installation is located on Hampton Roads harbor and Willoughby Bay at the confluence of the James River and the Chesapeake Bay, approximately 20 miles from the Atlantic Ocean. The Naval Station is homeport to aircraft carriers, cruisers, destroyers, large amphibious ships, submarines, and a variety of supply and logistics ships. Chambers Field, until 1999, was a separate Naval Air Station. Aircraft that are currently homebased at Chambers Field include C-2, C-9, C-12, and E-2 fixed wing aircraft, and H-3, H-46, H-53, and H-60 rotarywing aircraft. In addition, a large number of transient aircraft including C-5, C-17, and C-141, as well as a wide variety of commercial airliners use the facility.

3.2 History

The land on which the Naval Station is located was originally the site of the 1907 Jamestown Exposition. During this exposition, high-ranking naval officers agreed that this site was ideal for a naval activity. A bill was passed in 1908 proposing that Congress allow \$1 million for the purchase of the property and buildings, but it died when the Assistant Secretary of the Navy was given a choice between this property and a new coal ship. He replied that a new ship was an absolute necessity. However, immediately after the United States entered World War I in April 1917, the Secretary of the Navy was persuaded to buy the property. A bill was passed for the purchase of 474 acres; it set aside the sum of \$1.2 million as payment for the property and an additional \$1.6 million for the development of the base, including piers, aviation facilities, storehouses, facilities for fuel and oil storage, a recruit training station, a submarine base and recreation grounds for fleet personnel. Rear Admiral Dillingham was assigned the task of coordinating the area's development.

Construction of the training camp began on Independence Day 1917, and within the first 30 days housing for 7,500 men had been completed. The next six months saw the establishment of the 5th Naval District Headquarters and the Naval Operating Base, which included the Naval Training Center, Naval Air Station, Naval Hospital, and Submarine Station. By Armistice Day 1918, there were 34,000 enlisted men at the base. When the available land became insufficient, a large part of the flats on the west and north was filled from dredging done to allow large ships to dock. During the fall and winter of 1917, approximately 8 million cubic yards of mud was dredged.

NAS Norfolk started training aviators at Naval Air Detachment, Curtiss Field, Newport News, May 19, 1917. Approximately five months later, with a staff increasing to five officers, three aviators, ten enlisted sailors and seven aircraft, the detachment was renamed Naval Air Detachment, Naval Operating Base, Hampton Roads. The aircraft, all seaplanes, were flown across the James River and moored to stakes in the water until canvas hangars were constructed. The new location offered sheltered water in an ice-free harbor, perfect for seaplane landings, good anchorage on the beach front, accessibility to supplies from NAVSTA Norfolk and room for expansion. Its mission was to conduct anti-submarine patrols, train aviators and mechanics, and run an experimental facility. In July 1940, the Federal government began dredging Willoughby Bay and the Naval Air Station seaplane operating area at Breezy Point was constructed from reclaimed marshlands at the mouth of Mason Creek.

After the Second World War, the air side of the station continued to operate at near peak levels as well. It served as operational headquarters for the Fleet Air Command, and with the emergence of NAS Oceana as a master jet airfield in the late 1950s, the tandem formed the nucleus of the biggest airbase on the East Coast. The air station would be known as NAS Norfolk throughout the postwar period.

3.3 Relationship of Chambers Field and Naval Station

NAVSTA Norfolk has two primary components: the pier facilities that house and support ships and submarines, and the airfield. Further,

NAVSTA Norfolk is arranged into a series of discrete areas using the acronyms that describe their current or historical use. For instance, SP refers to the area historically used to hangar and operate Sea Planes. LF refers to the Landing Field area. Chambers Field occupies approximately 1,900 acres on NAVSTA Norfolk with associated aviation operations primarily limited to four areas; SP, LF, V and LP. Figure 3-1 is an aerial view of NAVSTA Norfolk delineating these areas. Figure 3-2 illustrates the development constraints including Accident Potential Zones, Explosive Quantity Distant Arcs, Wetlands and Installation Restoration sites.

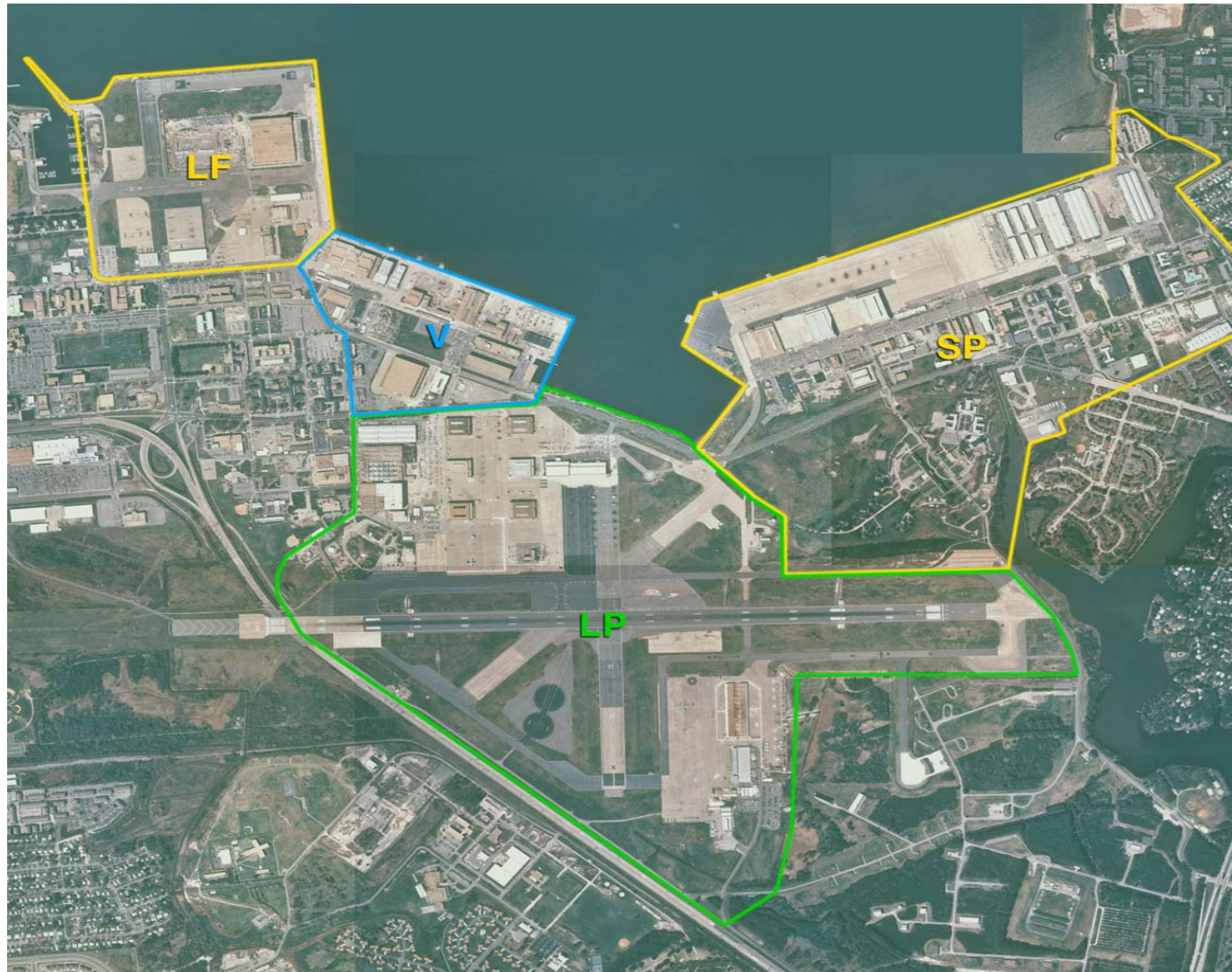
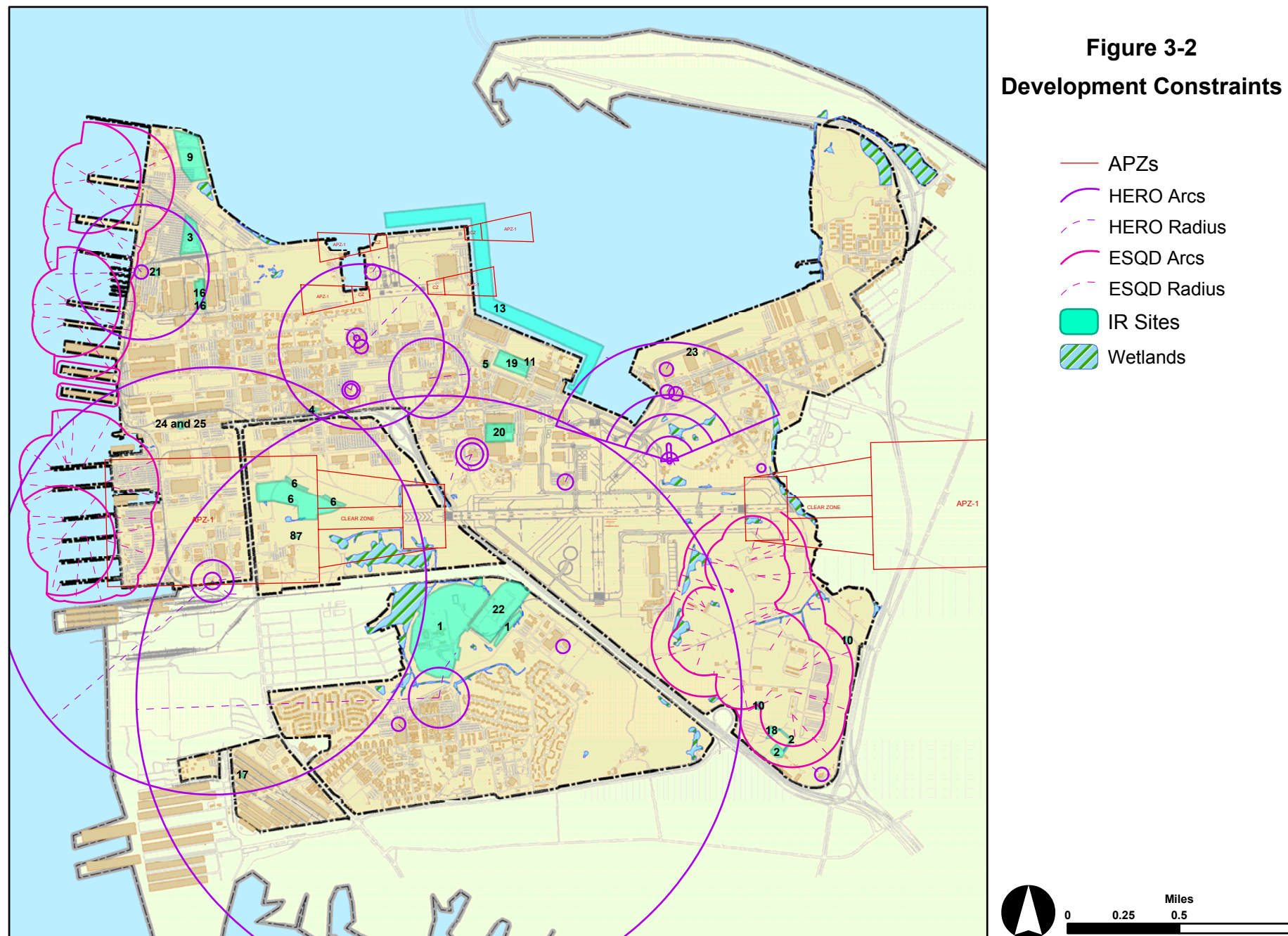


Figure 3-1
Areas at
Chambers Field
Subject to
Mid-Atlantic Aviation RSIP

Figure 3-2
Development Constraints



3.4 Aviation Activities

3.4.1 Current Permanent Party Aircraft

Chambers Field is home to the Commander, Helicopter Tactical Wing (COMHELTACWINGLANT) and Commander, Airborne Early Warning Wing (COMAEWWINGLANT) of the U.S. Atlantic Fleet. In addition, Naval Air Reserve squadrons HCS-4, VAW-78, and VR-56 and Marine Air Reserve squadron MAG-42 are located at Chambers Field. The Air Operations detachment maintains C-12 aircraft stationed at Chambers Field. Table 3-1 lists the current permanent party aircraft (as of FY 03) at Chambers Field by type and number.

Table 3-1 Current (FY03) Permanent Party Aircraft at Chambers Field

Designation	Aircraft Type	Number of Aircraft
Rotary Wing	H-3	16
Rotary Wing	H-60S	15
Rotary Wing	H-46 (Navy)	11
Rotary Wing	H-46 (Marine Corps)	12
Rotary Wing	MH-53	15
Rotary Wing	HH-60H	8
Fixed Wing	E-2C	34
Fixed Wing	C-2A	17
Fixed Wing	C-9	5
Fixed Wing	C-12	3
Total Current Permanent Party		136

3.4.1.1 COMHELTACWINGLANT

COMHELTACWINGLANT is composed of the Wing staff and has operational and administrative responsibilities for the material support, training, and overall readiness of seven squadrons and the Airborne Mine Countermeasures Weapon Systems Training School. Five of these seven squadrons are located at Chambers Field. They are HC-2, HC-6, HC-8, HM-14, and VC-6. The remaining two squadrons, HC-4 and HM-15 are located at Naval Air Station Sigonella, on the island of Sicily, and Naval Air Station Corpus Christi, Texas. Personnel and aircraft loading associated with COMHELTACWINGLANT are shown in Table 3-2.

Table 3-2 COMHELTACWINGLANT Existing Conditions

Organization/Unit	Personnel Loading	Aircraft Type	Number of Aircraft
COMHELTACWINGSLANT	46	N/A	N/A
HC-2	432	H-3	16
HC-6	290	H-60S	12
HC-8	297	H-60S	3
		H-46	11
HM-14	706 ¹	MH-53	15
VC-6	188 ²	QST-35 ³	4 ³
		HSMST ⁴	4 ⁴
Total Existing	1,959		57

¹ Includes forward deployed personnel recently reassigned to Chambers Field.

² Includes Norfolk sea and shore components only.

³ Not counted as aircraft, for informational purposes only. QST-35 = Seaborne Powered Target (SEPTAR)

⁴ Not counted as aircraft, for informational purposes only. HSMST = High-Speed Maneuvering Seaborne Targets

3.4.1.2 COMAEWWINGLANT

COMAEWWINGLANT is composed of the Wing staff and has operational and administrative responsibilities for the material support, training, and overall readiness of seven squadrons. All seven squadrons; VAW-120, VAW-121, VAW-123, VAW-124, VAW-125, VAW-126, and VRC-40 are located at Chambers Field. Five of these squadrons; VAW-121, VAW-123, VAW-124, VAW-125, and VAW-126 are Airborne Early Warning squadrons. Each squadron is assigned to an East Coast Aircraft Carrier Battle Group, and is subject to scheduled and unscheduled deployments. VRC-40 is the fleet logistics support squadron that provides efficient transportation of passengers, mail, and cargo to and from aircraft carriers at sea. Unlike most squadrons, VRC- 40 does not deploy as a unit. Instead, two aircraft detachments are assigned to each East Coast Aircraft Carrier Battle Group. Only the detachments are subject to scheduled and unscheduled deployments. VAW-120 is the Airborne Early Warning and Fleet Logistics Support Fleet Replacement Squadron (FRS) and conducts training for Pilots, Naval Flight Officers and Aircrews on E-2C and C-2A aircraft. Personnel and aircraft loading associated with COMAEWWINGLANT are shown in Table 3-3.

Table 3-3 COMAEWWINGLANT Existing Conditions

Organization/Unit	Personnel Loading	Aircraft Type	Number of Aircraft
COMAEWWINGLANT	50	N/A	N/A
VAW-120	545 ⁵	E-2C C-2A	10 5
VAW-121	168	E-2C	4
VAW-123	168	E-2C	4
VAW-124	168	E-2C	4
VAW-125	168	E-2C	4
VAW-126	168	E-2C	4
VRC-40	346	C-2A	12
Total Existing	1,781		47

⁵ Includes replacement pilots.

3.4.1.3 Navy and Marine Corps Air Reserve Squadrons

There are three fixed and rotary wing Naval Air Reserve squadrons, VAW-78, VR-56, and HCS-4 and one rotary wing Marine Air Reserve squadron, MAG-42, Detachment Bravo (Det. B) located at Chambers Field. VAW-78 is a reserve Airborne Early Warning squadron and a component of Carrier Air Wing Reserve (CVWR) 20. The majority of personnel assigned to VAW-78 are selected reservists who drill periodically to maintain proficiency. A small cadre of permanent officer and enlisted personnel are on duty to train and administer the selected reservists.

VR-56 is a reserve Fleet Logistics Support Squadron that provides around the world logistical support to all branches of the Armed Forces. VR-56 is one of fourteen logistics squadrons in the U.S. Navy and reports operationally and administratively to Commander, Fleet Logistics Support Wing. VR-56 is composed of active duty and selected reserve personnel.

HCS-4 is a reserve Helicopter Combat Support Special Squadron and a component of the Helicopter Reserve Wing. HCS-4 is one of only two squadrons in the U.S. Navy dedicated to Naval Special Warfare support and Strike Rescue. HCS-4 is composed of active duty and selected reserve personnel.

MAG-42, Detachment B provides administrative, maintenance; operational and training support for two reserve units, Helicopter Marine Medium Squadron (HMM) 774 and Marine Air Logistics Squadron (MALS) 42, Det. B and a small cadre of support personnel. MAG-42, Detachment B is composed of active duty and reserve Marine Corps and Navy personnel. MAG-42, Detachment B conducts routine operations in support of Department of Defense and other governmental agencies. Personnel and aircraft loading associated with the reserve air components are shown in Table 3-4.

**Table 3-4 Navy and Marine Corps Air Reserve Squadrons
Existing Conditions**

Organization/Unit	Personnel Loading	Aircraft Type	Number of Aircraft
VAW-78	206	E-2C	4
VR-56	315	C-9	5
HCS-4	250	HH-60H	8
MAG-42, Det. B ⁶	350	CH-46	12
Total Existing	1,121		29

3.4.1.4 Other Permanent Party Aircraft

The Air Operations Detachment at Chambers Field operates the UC-12B/M Fleet Replacement School (FRS). Five (5) station C-12 aircraft are used by the UC-12B/M Fleet Replacement School to provide pilot and aircrew training in support of all USN East Coast and European C-12 units. The FRS also serves as Commander, Naval Air Forces, and Atlantic (CNAL) C-12 Evaluator for East Coast and European units. In addition, the FRS provides support to Naval Air Logistics Office and joint commanders. There are 19 personnel permanently assigned to the FRS and an average of 4 student pilots.

3.4.2 Current Transient Aircraft

Chambers Field acts as one of the primary East Coast locations for the Air Mobility Command (AMC) and provides personnel and air cargo transportation for all Armed Services. The AMC passenger terminal and air cargo terminal are the second busiest AMC facilities in the United States. Table 3-5 shows a typical daily transient aircraft load.

Table 3-5 Existing Typical Daily Transient Aircraft Loading

Designation	Aircraft Type	Number of Aircraft
Transient	C-130	2
Transient	C-5	1
Transient	767	1
Transient	DC-8	1
Transient	C-141	1
Transient	C-17	1
Total Transient		7

3.4.3 Projected Permanent Party Aircraft

By 2015, Chambers Field will have an increase of 50 permanent party aircraft from current levels. This represents a 36 percent increase. Much of the change to permanent party aircraft numbers and mix is due to the introduction of the H-60S rotary wing aircraft. Table 3-6 lists the projected (2015) permanent party aircraft at Chambers Field and Table 3-7 shows a comparison of current (2003) and projected (2015) permanent party aircraft at Chambers Field.

Table 3-6 Projected Permanent Party Aircraft at Chambers Field

Designation	Aircraft Type	Number of Aircraft
Rotary Wing	H-60S	92
Rotary Wing	H-46 (Marine Corps)	12
Rotary Wing	MH-53	15
Rotary Wing	HH-60H	8
Fixed Wing	E-2C	34
Fixed Wing	C-2A	17
Fixed Wing	C-40A	4
Fixed Wing	C-12	6
Total Projected Permanent Party		188

⁶ Includes HMM-774 and MALS-42, Det. B

Table 3-7 Comparison of Current (2003) and Projected (2012) Permanent Party Aircraft at Chambers Field

Designation	Aircraft Type	Number of Aircraft	
		2003	2015
Rotary Wing	H-3	16	0
Rotary Wing	H-60S	15	92
Rotary Wing	H-46 (Navy)	11	0
Rotary Wing	H-46 (Marine Corps)	12	12
Rotary Wing	MH-53	15	15
Rotary Wing	HH-60H	8	8
Fixed Wing	E-2C	34	34
Fixed Wing	C-2A	17	17
Fixed Wing	C-9	5	0
Fixed Wing	C-12	5	6
Fixed Wing	C-40A	0	4
Total Permanent Party Comparison		138	188

3.4.3.1 COMHELTACWINGLANT

To meet an ever-changing military mission and ensure operational readiness, the U.S. Atlantic Fleet is replacing a large number of aging rotary wing aircraft at Chambers Field. In the mid-1990's, the Department of the Navy developed an acquisition concept known as the Helicopter Master Plan. The plan's strategy is to reduce the number of helicopter airframes in the Navy's inventory from six to two. In May 2002, after the preparation of an Environmental Assessment to consider East Coast basing options for the new H-60 Sierra (S) and H-60 Romeo (R) rotary wing aircraft, the U.S. Navy selected Chambers Field as the location for all H-60S aircraft. As part of the transition and consolidation of the helicopter community at Chambers Field, COMHELTACWINGLANT will be renamed Commander, Helicopter Sea Combat Wing U.S. Atlantic Fleet (COMHSCWINGLANT)

With the introduction of the H-60S airframe at Chambers Field, the existing Helicopter Combat Support Squadrons HC-6 and HC-8 will transition to the H-60S aircraft and be redesignated shore-based Expeditionary squadrons (HSC-26 and HSC-28 respectively) which will fulfill Navy requirements that are not directly associated with the Aircraft

Carrier Battle Group (CVBG). These squadrons will be comprised of five deployable two-helicopter detachments. In addition to HSC-26 and HSC-28, there will be a new shore-based Expeditionary squadron (HSC-new) introduced to Chambers Field. This squadron will be comprised of six deployable two-helicopter detachments. Five new Aircraft Carrier (CV)-based H-60S squadrons (HCS-7,5,9,11,new) will be introduced to Chambers Field. Each CV squadron will be assigned to an East Coast CVBG and are subject to scheduled and unscheduled deployments. HSC-2 will become the East Coast FRS for the H-60S aircraft. HM-14 will continue to operate the MH-53 aircraft with no significant changes from its current status. Table 3-8 shows the projected (FY2015) personnel and aircraft loading for COMHSCWINGLANT.

Table 3-8 Projected (FY-2015) Personnel and Aircraft Loading for COMHSCWINGLANT

Organization/Unit	Personnel Loading	Aircraft Type	Number of Aircraft
COMHSCWINGLANT	73	N/A	N/A
HSC-2	498	H-60S	20
HSC-26	271	H-60S	10
HSC-28	271	H-60S	10
HSC-new	324	H-60S	12
HCS-7	310	H-60S	8
HCS-5	310	H-60S	8
HCS-9	310	H-60S	8
HCS-11	310	H-60S	8
HCS-new	310	H-60S	8
HM-14	706	MH-53	15
Total Projected	3693		107

3.4.3.2 COMAEWWINGLANT

In the future, it is anticipated that there will be no significant changes to current personnel loading or aircraft loading for COMAEWWINGLANT and the seven operational squadrons under its operational and administrative control. Refer back to Table 3-8 for proposed (projected to FY 2015) personnel and aircraft loading for COMAEWWINGLANT.

3.4.3.3 Navy and Marine Corps Air Reserve Squadrons

In the future, it is anticipated that there will be no significant changes to current personnel loading and aircraft loading for Naval Air Reserve squadrons, VAW-78 and HCS-4 and Marine Air Reserve squadron, MAG-42, Detachment Bravo (Det. B). Refer back to Table 3-4 for proposed (projected to FY 2012) personnel and aircraft loading for VAW-78, HCS-4, and MAG-42, Det. B. VR-56 will be transitioning from the current C-9 aircraft to the C-40A aircraft in the 2010 timeframe. The hangar currently housing VR-56 (LP-33) at Chambers Field will not accommodate the C-40A aircraft. In January 2003, a feasibility study was prepared to determine the best engineering solution at Chambers Field to modify LP-33 or to build a new hangar. Any modifications made to LP-33 would involve raising the hangar roof. Costs associated with modifying LP-33 vary from \$5.0M to \$10.0M. Constructing a new hangar to accommodate the C-40A aircraft is estimated to cost approximately \$15M.

3.4.4 Future Transient Aircraft

While it is anticipated that future transient aircraft loads will not change significantly from current levels, the type and mix of aircraft may change. For example, the C-141 aircraft will be replaced by the C-17. Table 3-9 shows projected typical daily transient aircraft loading and Table 3-10 shows a comparison of current (2003) and projected (2015) typical daily transient aircraft loading.

Table 3-9 Projected (2015) Typical Daily Transient Aircraft Loading

Designation	Aircraft Type	Number of Aircraft
Transient	C-130	2
Transient	C-5	2
Transient	767	1
Transient	C-17	3
Total Transient		8

Table 3-10 Comparison of Current (2003) and Projected (2015) Typical Daily Transient Aircraft Loading

Designation	Aircraft Type	Number of Aircraft	
		2003	2015
Transient	C-130	2	2
Transient	C-5	1	2
Transient	767	1	1
Transient	DC-8	1	0
Transient	C-141	1	0
Transient	C-17	1	3
Total Transient		7	8

3.5 Summary of Current and Future Air Operations

Currently squadrons stationed at Chambers Field perform approximately 100,000 to 120,000 operations annually. Approximately 2,000 of these operations are associated with the air passenger terminal and air cargo terminal. See Chapter 2 for a discussion of flight operations.

In the future, it is assumed that there will be little change in the fixed-wing components at Chamber Field. It is also assumed the air passenger and air cargo operations will not increase significantly from current levels in the future. It should be noted that worldwide military events and conflicts could, from time to time, contribute to a temporary surge in annual air operations. It is projected that rotary-wing components at Chambers Field will add approximately 30,000 operations annually by the year 2015. This is a 26 percent increase over air operations documented in calendar year 2000. Although air operations are projected to increase in the future, they will not exceed operations levels documented in the early 1990s. Therefore, the projected increase in total air operations is not anticipated to adversely impact the Chambers Field airfield operations. For a detailed breakdown of current and future air operations at Chambers Field.

3.6 Summary of Existing Assets and Future Needs

3.6.1 Airfield Pavements

In 1998, an Airfield Condition Survey and Load Evaluation was performed at NAVSTA Norfolk Chambers Field by the Pavement Evaluation Team from Atlantic Division, Naval Facilities Engineering Command. The purpose of the report is to provide to the station and the Major Claimant maintenance and repair recommendations, based upon both the visual condition survey and a structural analysis of the pavements surveyed. The report also provides the load-carrying capacity of the pavements, presented in terms of the Pavement Classification Number (PCN).

Overall, the airfield pavements at Chambers Field were rated to be in good condition. General guidelines for maintenance of operational airfields require that PCI values for aprons and taxiways should exceed 60 and values for runways should exceed 70. The Pavement Condition Index (PCI) for concrete pavement sections of Runway 10/28 ranged from 25 to 97, while those of the asphalt sections ranged from 77 to 87. The PCI values for the LF Area (Heliport) and SP Area pavements ranged from 42 to 100 and 13 to 79. Table 3-10 shows the airfield pavements at Chambers Field and the average PCI and condition as reported in the 1998 report. Figure 3-3 shows the pavement designations. It should be noted that the 1998 Airfield Condition Survey and Load Evaluation study is currently being updated. If available, the updated information will be included in the Final version of this Plan.

3.6.1.1 Runways

Runways for both fixed wing and rotary wing aircraft operate on a 24-hour basis under the management of the air operations department detachment from NAS Oceana.

3.6.1.1.1 Fixed Wing Runways

NAVSTA Norfolk has one 8,400 LF by 200 LF Class B runway designated Runway 10/28. Fixed-wing departures and arrivals are nearly equal from the east and the west. The primary arrival and departure flight tracks for fixed-wing aircraft on Runway 10/28 are shown in Figure 3-4. It should be noted that Runway 10 has a 350 ft displaced threshold and Runway 28 has a 1,000 ft displaced threshold.

Lengthening of the runway to the east is restricted by Masons Creek, and lengthening of the runway to the west is restricted by the approach/departure slope over the mast heights of Navy vessels at NAVSTA Norfolk piers.

Table 3-11 Summation of NAVSTA Norfolk Chambers Field Aircraft Pavements

Category Code	Designation	U/M	Total Quantity	Length (LF)	Width (LF)	Avg PCI	Condition	Comments
111-10	Runway 10/28	SY	186,667	8,400	200	82	VG/E	
111-15	Heliport Runway 09L/26R	SY	26,667	1,600	150	64	G	
111-15	Heliport Runway 09R/26L	SY	22,600	1,130	180	66	G	
112-10	Runway Hold Area 10-1	SY	22,611			69	G	
112-10	Runway Hold Area 10-2	SY	10,716			94	E	
112-10	Runway Hold Area 28-1	SY	25,074			60	G	
112-10	Runway Hold Area 28-2	SY	20,171			73	VG	
112-10	North Taxiway (Charlie)	SY	27,889	2,420	75	69	G	
112-10	North Taxiway (Alpha)	SY	33,917	3,844	75	50	P/F/G/VG	The 2,400 LF portion of Alpha Taxiway immediately east of Taxiway Bravo North are in Poor to Fair Condition. The remainder is in Good to Very Good Condition
112-10	South Taxiway (Foxtrot)	SY	35,795	3,600	75	45	P/G	
112-10	Taxiway Mike	SY	11,684	1,000	75	61	G	
112-10	Taxiway Bravo (South)	SY	53,611	1,930	200	40	VP/F	
112-10	Taxiway Bravo (North)	SY	37,803	1,566	200	59	F/P	
112-10	Taxiway Delta	SY	28,778	2,968	75	68	G/VG	
112-10	Taxiway Delta Hold Area 1	SY	3,568			80	G/VG	
112-10	Taxiway Delta Hold Area 2	SY	6,080			64	G/VG	
112-10	Taxiway Echo	SY	7,778	400	75	67	G	
112-10	Southwest Taxiway	SY	36,547	1,286	250	71	VG/G	
112-10	Northeast Taxiway	SY	35,350	1,400	200	68	VG/G	
112-10	North Perimeter Taxiway	SY	3,471	514	60	80	VG	
112-10	North Perimeter Hold Area	SY	4,716	550	93	81	VG	
112-10	Compass Calibration Pad Taxiway	SY	863	190	60	56	G	
112-10	SP Area Taxiway	SY	32,416	3,824	75	65	G/VG	
112-10	Crossover Taxiway 1	SY	2,283	300	60	72	VG	
112-10	Crossover Taxiway 2	SY	1,789	400	60	63	G	
112-10	Taxiway Tango	SY	3,870	350	75	90	E	
112-10	Ordnance Handling Area Taxiway	SY	10,210	700	75	66	G	
112-10	Heliport Taxiway	SY	46,728			80	E/P	
113-10	Red Label Area	SY	62,748			57	G/F	
113-20	LP Apron (North)	SY	214,017	1,987	969	90		Note: Approximate size and dimensions of apron after completion of Hangar Recapitilization Plan and demolition of LP-1 (Old Air/Ops/Control Tower Facility).
113-20	LP Apron (South)	SY	123,967	1,765	666	61		
113-20	SP Apron	SY	199,551	2,426	740	65		
113-20	LF Apron	SY	65,822	895	671	64		

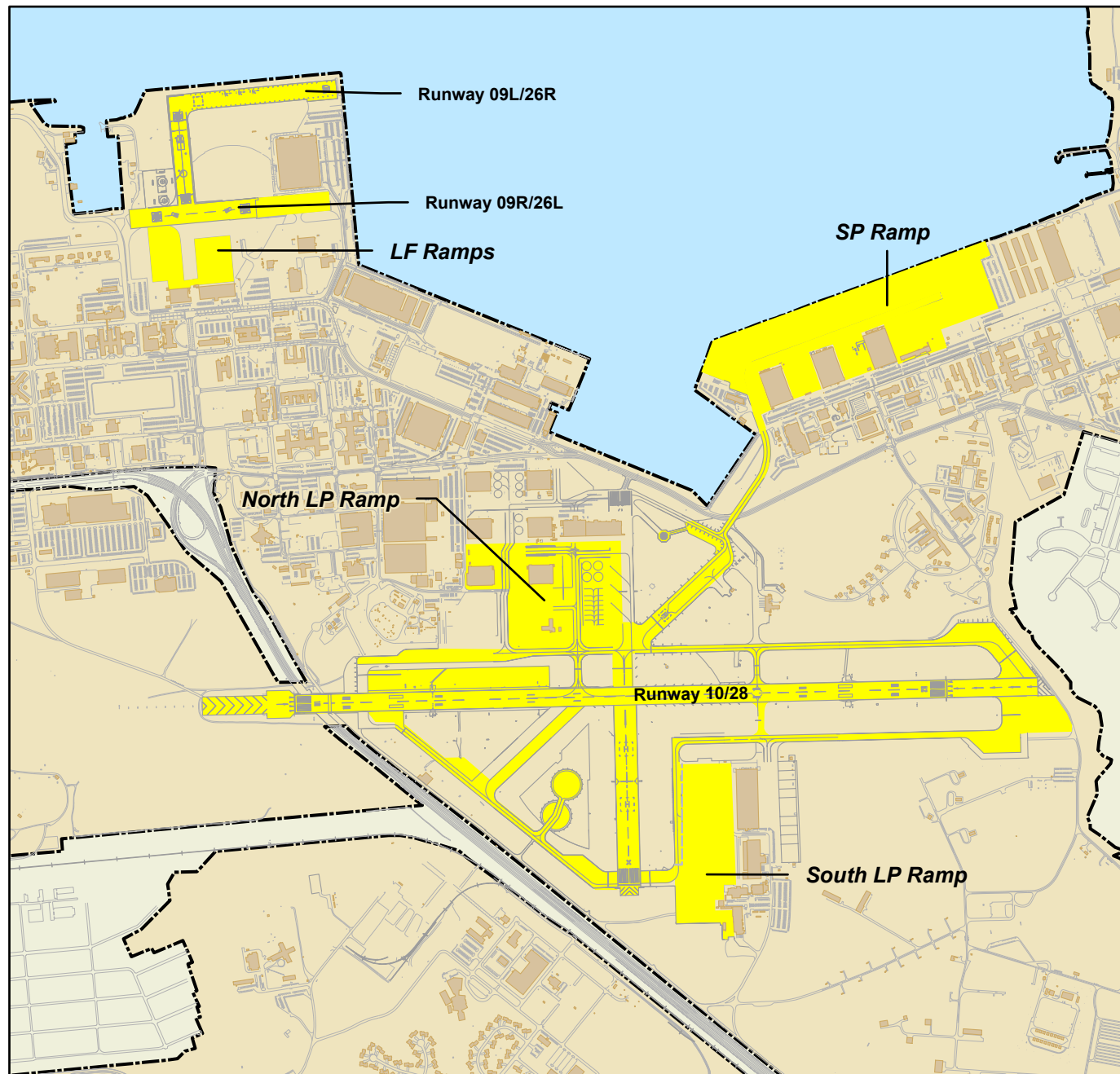
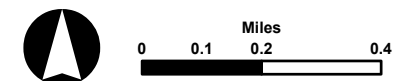


Figure 3-3
Chambers Field
Airfield Pavements



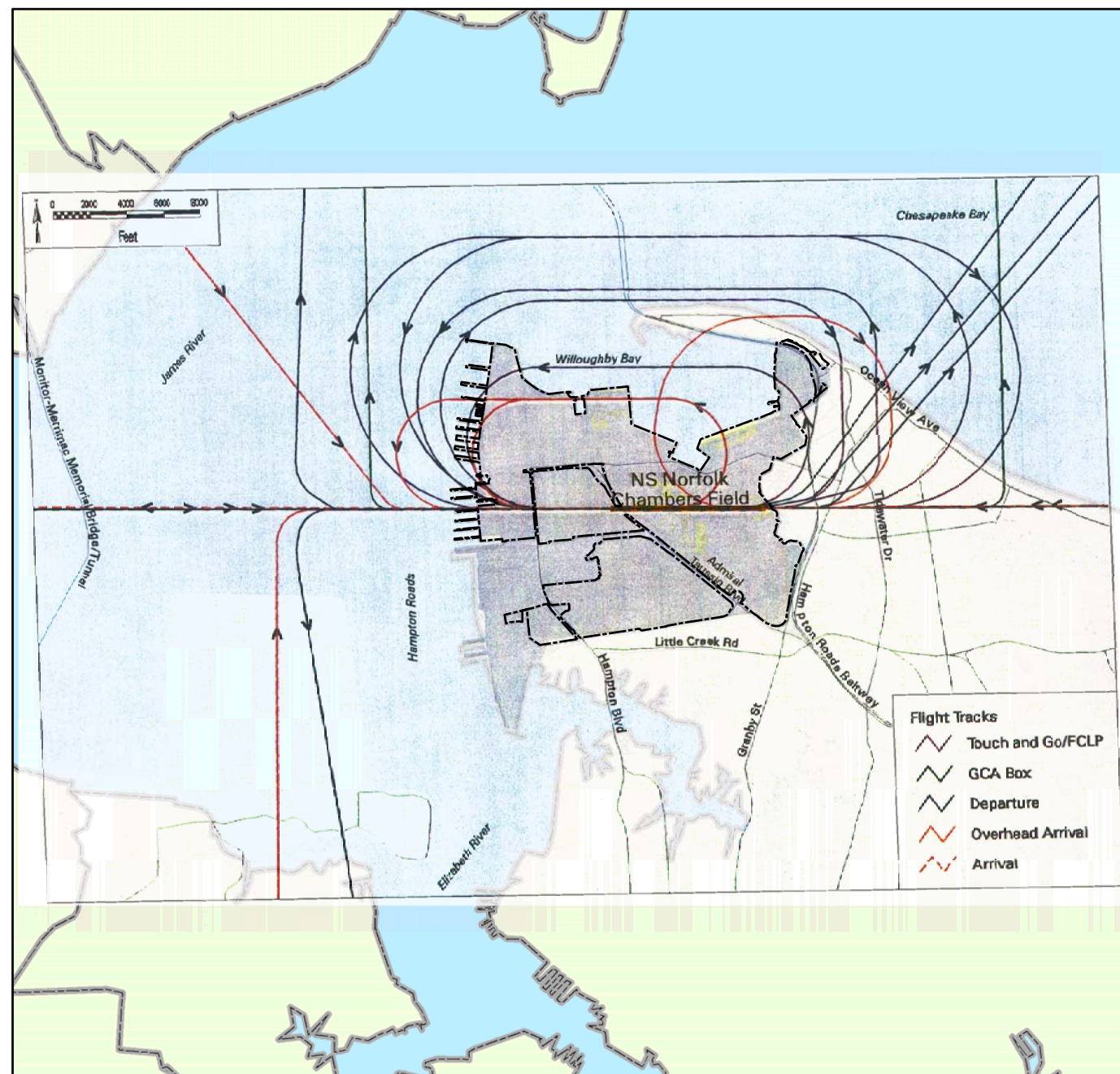
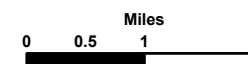


Figure 3-4
Chambers Field
Primary Arrival and
Departure Flight Tracks



3.6.1.2 Rotary Wing Runway/Helipads

The heliport, located in the LF area, contains one set of parallel short airstrips designated as Runway 09 (Left)/26 (Right) and 09 (Right)/26 (Left). Runway 09L/26R is also known as the outboard runway and runway 09R/26L is known as the inboard runway. Runway 09L/26R is 1,600 LF in length and 150 LF wide. Runway 09R/26L is 1,130 LF in length and 180 LF wide.

Runway 09L/26R has a PCI average of 64 as listed in the latest PCI report for NAVSTA Norfolk Chambers Field and Runway 09R/26L has a PCI average of 66. Both runways are considered in good condition.

Due to increased helicopter operations in the LF area at Chambers Field, it is recommended that the inboard runway (09R/26L) be lengthened to the east to accommodate additional helicopter traffic.

Chambers Field currently has two operational helicopter landing pads; Northeast Pad and Dragon Pad. The Northeast Pad is located on Bravo Taxiway (North). The pad is an unlit standard Visual Flight Rules (VFR) helipad with a bi-directional ingress/egress profile. The Dragon Pad is located on the seawall in the SP area. The Dragon Pad recently has lights installed for night operations and is a standard VFR helipad with a same direction ingress/egress profile. Because the Dragon Pad has an adjacent access ramp to the Chesapeake Bay it is primarily used by the MH-53 aircraft for sled operations training. Flight tracks for rotary-wing aircraft at Chambers Field are shown on Figure 3-5.

Due to the projected increase in the number of rotary-wing aircraft and increased operations and training requirements, a minimum of two additional helipads will be required in the SP area. These pads are required to be lighted VFR with a same direction ingress/egress profile.

3.6.1.3 Parking Aprons

There are four primary aircraft parking aprons. Three support permanently assigned aircraft squadrons. They are located in the LF, SP, and LP (north of Runway 10/28) areas. The fourth aircraft parking apron is located in the LP area, south of Runway 10/28. This apron is primarily used by transient aircraft associated with the Air Mobility Command (AMC) air cargo and air passenger missions. (See Figure 3-3)

Of the four primary parking apron areas, only the LP Area (North) apron is undergoing significant changes. These changes are a result of the on-going hangar recapitalization plan for Chambers Field and the demolition of the old air operations and control tower facility (LP-1).

With the introduction of the MH-60S Knighthawk to Chambers Field, new operational facilities proposed for the LF Area will generate a need for additional aircraft parking apron in that area. Figures 3-6, 3-7, 3-8 and 3-9 depict existing aircraft parking at Chambers Field. Figures 3-10, 3-11, 3-12, & 3-13 shows future aircraft parking at Chambers Field.

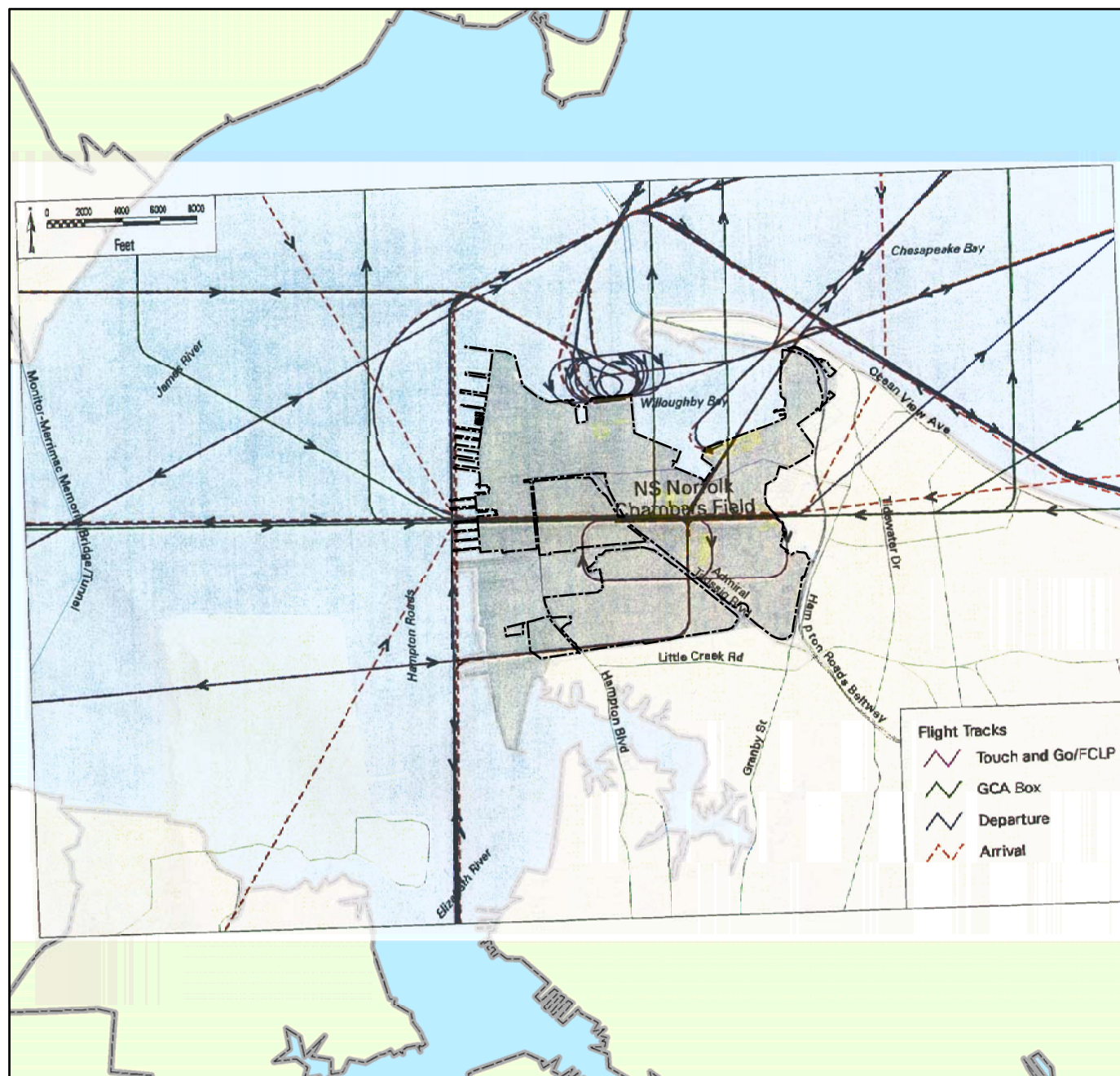


Figure 3-5
Chambers Field
Rotary Arrival and
Departure Flight Tracks



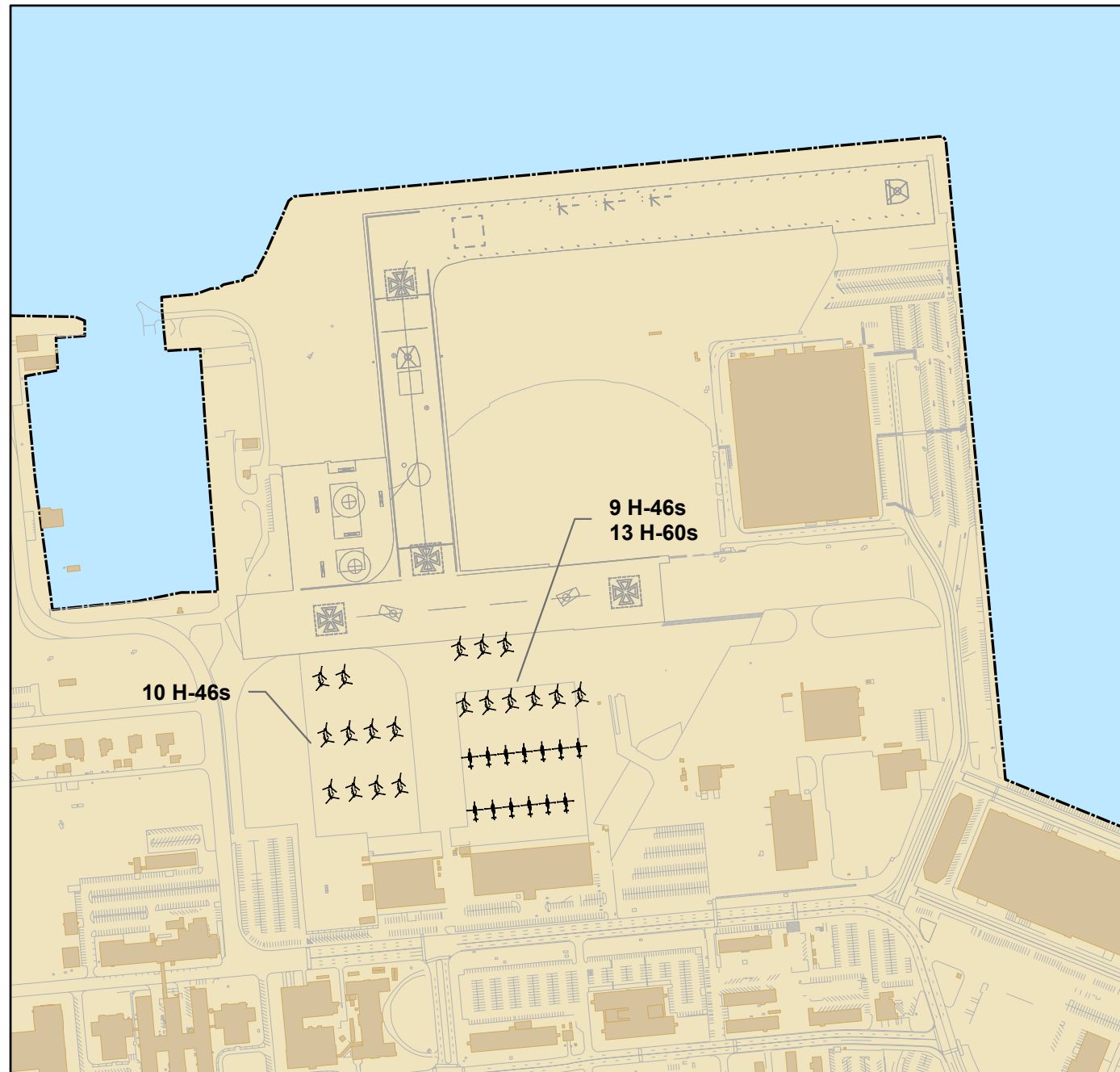


Figure 3-6
Existing Aircraft Parking
LF Area



0 150 300 600
Feet

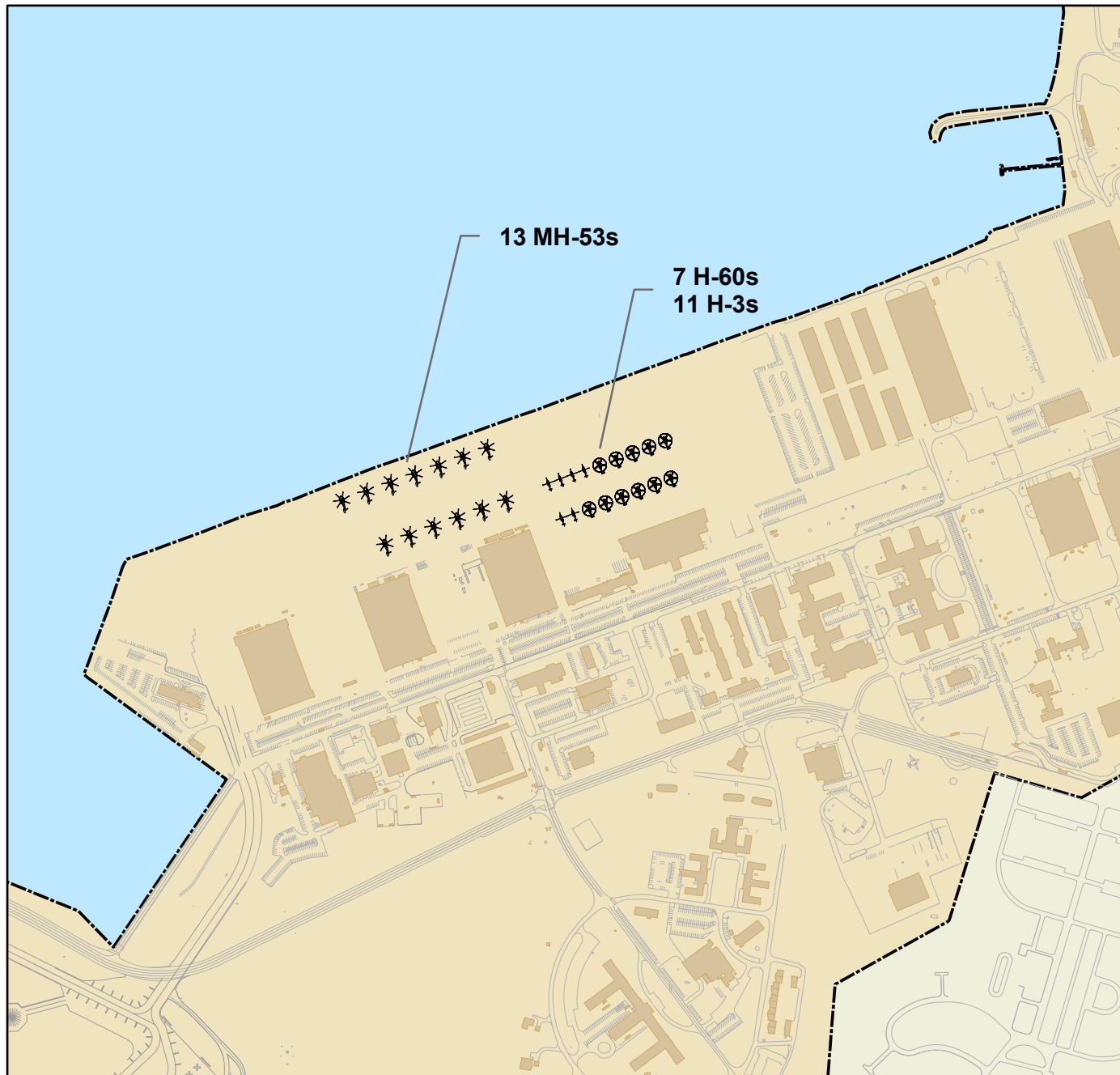


Figure 3-7
Existing Aircraft Parking
SP Area

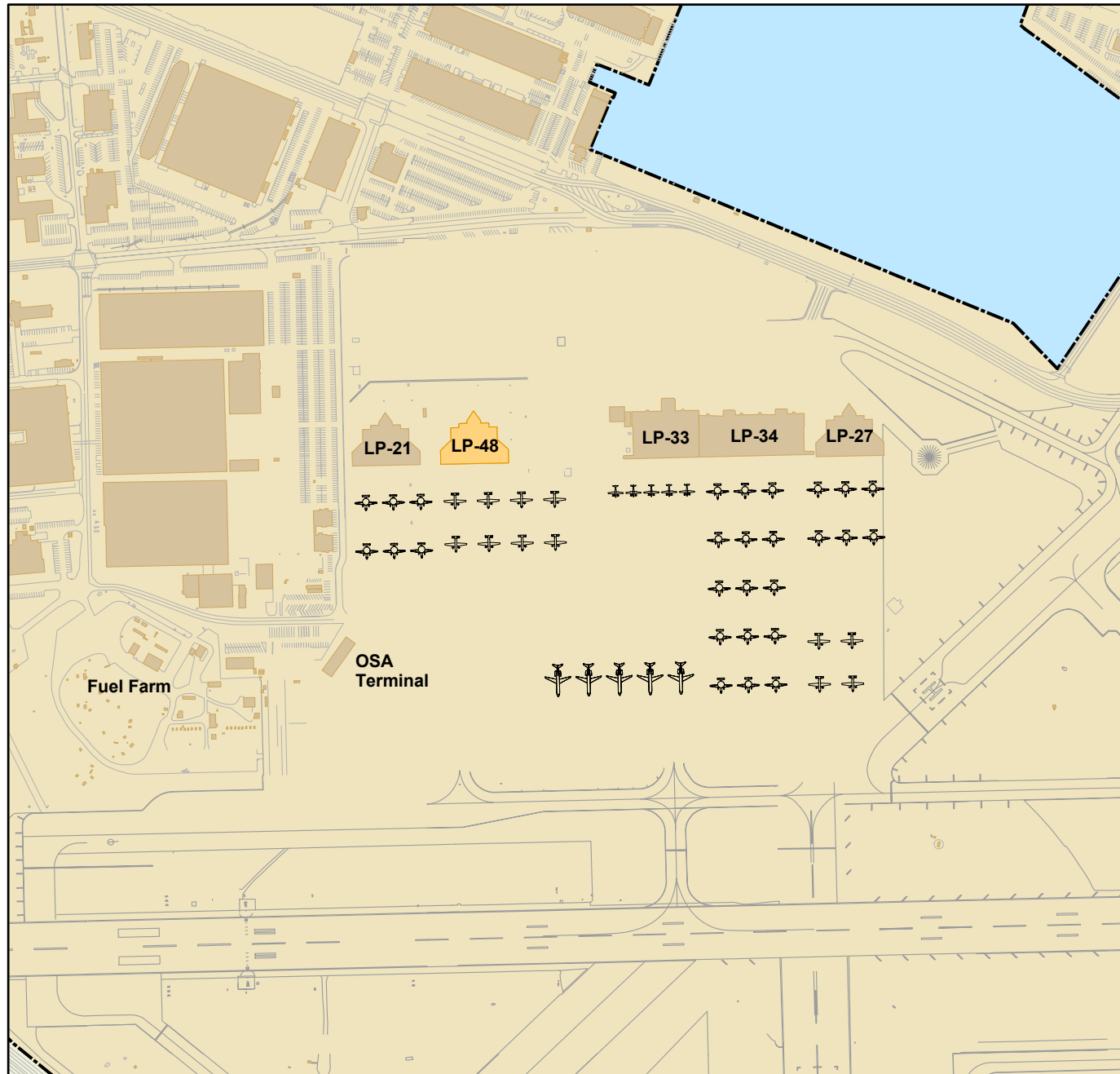


Figure 3-8
Existing Aircraft Parking
LP North Area

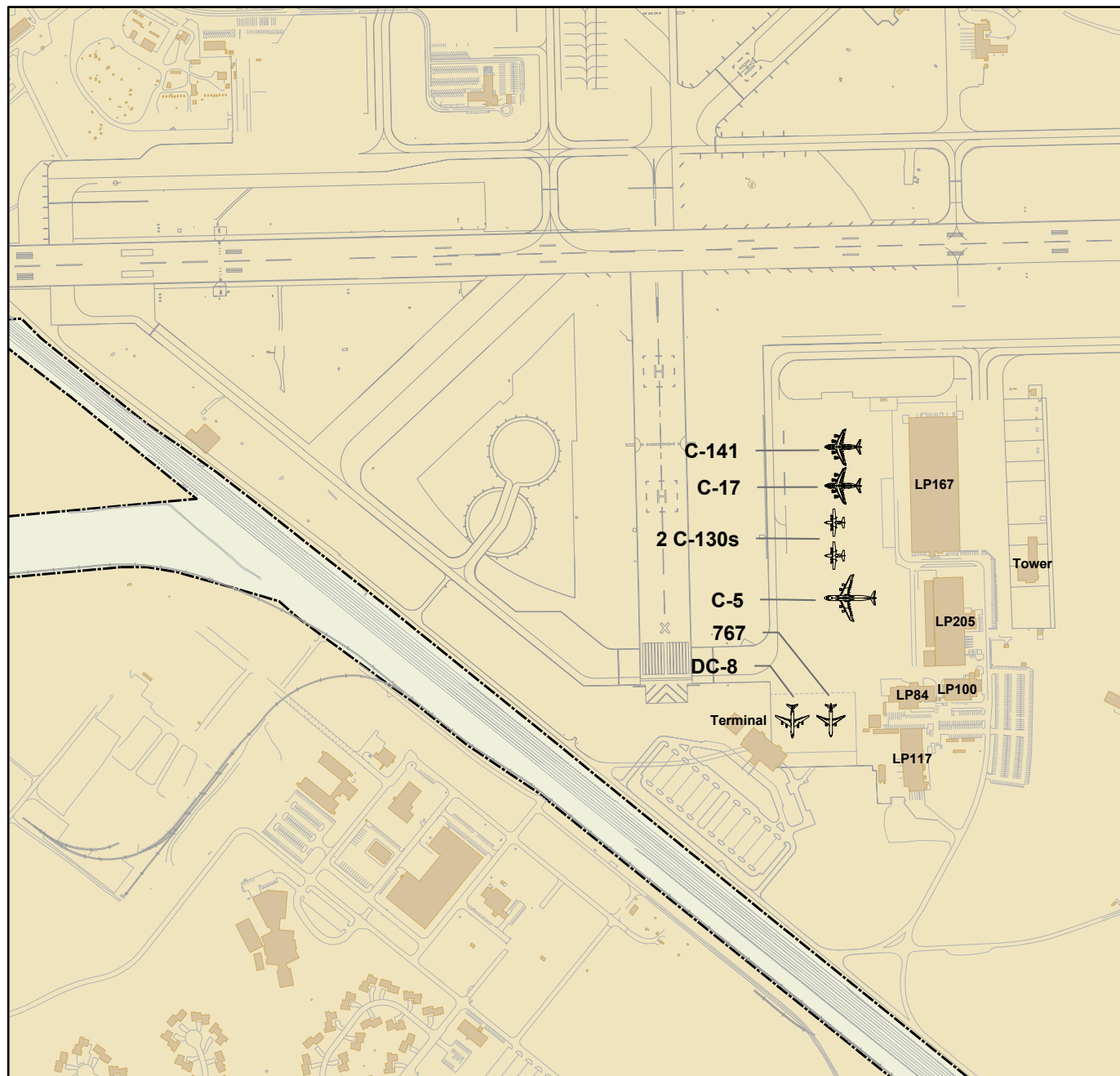


Figure 3-9
Existing Aircraft Parking
South LP Area

The major problems with the existing parking aprons are in configuration rather than total available assets. Current and future needs are based on the type and number of aircraft to be parked and the need to maintain squadron integrity and proximity to squadron maintenance facilities. Table 3-11 shows existing aircraft parking aprons. Table 3-12 shows current and projected permanent party aircraft and the approximate size of aircraft parking apron required to accommodate each. This table includes a summary of current and projected aircraft by organization and the parking apron requirements based on those aircraft. There is a 32 percent increase in the total number of aircraft by 2015. There is a corresponding increase in parking apron of approximately 22 percent. Table 3-13 shows current and projected transient aircraft. This results in a 14 percent increase in aircraft and similar increase in aircraft parking apron for transients.

Table 3-11 Existing Aircraft Parking Apron Assets

Location	Length	Width	Quantity (SY)
LF Area	895	671	65,822
SP Area	2,426	740	199,551
LP Area (North)	969	1,987	214,017
LP Area (South)	1,765	666	123,967
Chambers Field Total			603,357

Table 3-12 Chambers Field Existing and Projected Permanent Party Aircraft Parking Requirement

Squadron/Unit	Aircraft Type	Number of Aircraft Parked on Apron		Approximate Aircraft Parking Apron Requirement (SY)	
		(2003)	(2015)	(2003)	(2015)
VAW-120	E-2C	9	9	31,264	31,264
	C-2A	4	4	14,000	14,000
VAW-121	E-2C	3	3	10,421	10,421
VAW-123	E-2C	3	3	10,421	10,421
VAW-124	E-2C	3	3	10,421	10,421
VAW-125	E-2C	3	3	10,421	10,421
VAW-126	E-2C	3	3	10,421	10,421
VRC-40	C-2A	10	10	35,000	35,000
HC-2	H-3	13	0	46,319	0
	H-60S	0	17	0	46,321
HC-6	H-60S	10	8	27,248	21,798
HC-8	H-46	9	0	24,145	0
	H-60S	3	8	8,174	21,798
HC-new	H-60S	0	10	0	27,248
HM-14	MH-53	13	13	77,305	77,305
CV-1	H-60S	0	7	0	19,073
CV-2	H-60S	0	7	0	19,073
CV-3	H-60S	0	7	0	19,073
CV-4	H-60S	0	7	0	19,073
CV-5	H-60S	0	7	0	19,073
VAW-78	E-2C	3	3	10,421	10,421
VR-56	C-9	5	0	27,694	0
	C-40A	0	4	0	24,815
HCS-4	HH-60H	7	7	19,073	19,073
MAG-42, Det. B	CH-46	10	10	26,828	26,828
Station	C-12	5	6	9,100	10,920
Permanent Party Subtotal		116	159	408,676	514,261
Less (-) Deployed Squadron(s)		-5	-12	-17,421	-36,494
Permanent Party Totals		111	147	391,255	477,767

Table 3-13 Chambers Field Existing and Projected Transient Aircraft Parking Requirement

Designation	Aircraft Type	Number of Aircraft Parked on Apron		Approximate Aircraft Parking Apron Requirement (\$Y)	
		(2003)	(2015)	(2003)	(2015)
Transient	C-130	2	2	17,290	17,290
Transient	C-5	1	2	25,025	50,050
Transient	767	1	1	16,450	16,450
Transient	DC-8	1	0	14,128	0
Transient	C-141	1	0	16,940	0
Transient	C-17	1	3	9,923	29,768
Transient Totals		7	8	99,756	113,558

3.6.1.4 Taxiways

Chambers Field has a robust taxiway system that allows movement of aircraft between the rotary wing area, the AEW squadrons and the air terminal areas. Other than routine maintenance and repair, there are no future significant changes anticipated to the existing taxiway system at Chambers Field.

3.6.1.5 Other Airfield Pavements

Other airfield pavements at Chambers Field include aircraft access aprons, compass calibration pad, aircraft wash rack pavement, aircraft towway, and ordnance handling area. Table 3-14 shows the other airfield pavements and current condition. (See Figure 3-14).

For purposes of this plan, the aircraft access aprons are included in the aircraft parking apron square yardage totals. (See Table 3-10) Where practical, an aircraft access apron extending 50 feet out in front of an existing aircraft maintenance hangar bay and running the width of the hangar bay door should be provided. For proposed facilities, the aircraft access apron is provided.

There are four (4) compass calibration pads, LP 67, LP 148, LF 29, and LF 35 at Chambers Field. LP 67 is located in the LP (North) Area. Due to insufficient clearances to large metallic objects, LP 27, that cause interference with the calibration process, the pad is no longer used. LP 148 is located in the LP (South) Area. Due to insufficient clearances to large metallic objects, LP 167, that cause interference with the calibration process, the pad is no longer used. LF 29 and LF 35 are located in the LF helicopter operations area. LF 29 is no longer used due to its proximity to the in-board helicopter runway. LF 35 is the only compass calibration pad still in use at Chambers Field.

With the proposed increase in operational squadrons using the LF Area and a need to increase aircraft parking apron, it is proposed that the existing compass calibration pads LF 29 and 35 be abandoned and one (1) be constructed at another location within the LF area. A detailed site survey will be required to determine the appropriate “quiet” area for a compass calibration pad. See Figure 3-6 for a proposed site.

Table 3-14 Other Airfield Pavements at Chambers Field

Category Code	Facility Number	Designation	U/M	Total Quantity	Length (LF)	Width (LF)	Status
116-10	SP 296	Aircraft Washrack Pavement	SY	2,533	232	75	Operable
116-10	SP 13	Aircraft Washrack Pavement	SY	3,901	234	140	Inoperable
116-10	LP 35	Aircraft Washrack Pavement	SY	3,901	234	152	Inoperable
116-20	LP 67	Compass Calibration Pad	SY	1,600			Inoperable
116-20	LP 148	Compass Calibration Pad	SY	1,600			Inoperable
116-20	LF 29	Compass Calibration Pad	SY	1,600			Inoperable
116-20	LF 35	Compass Calibration Pad	SY	1,600			Operable
116-50	N/A	Towway	SY	29,527	3,290	75	Adequate
116-55	NM 81	Ordnance Handling Pad	SY	14,131	400	250	Adequate

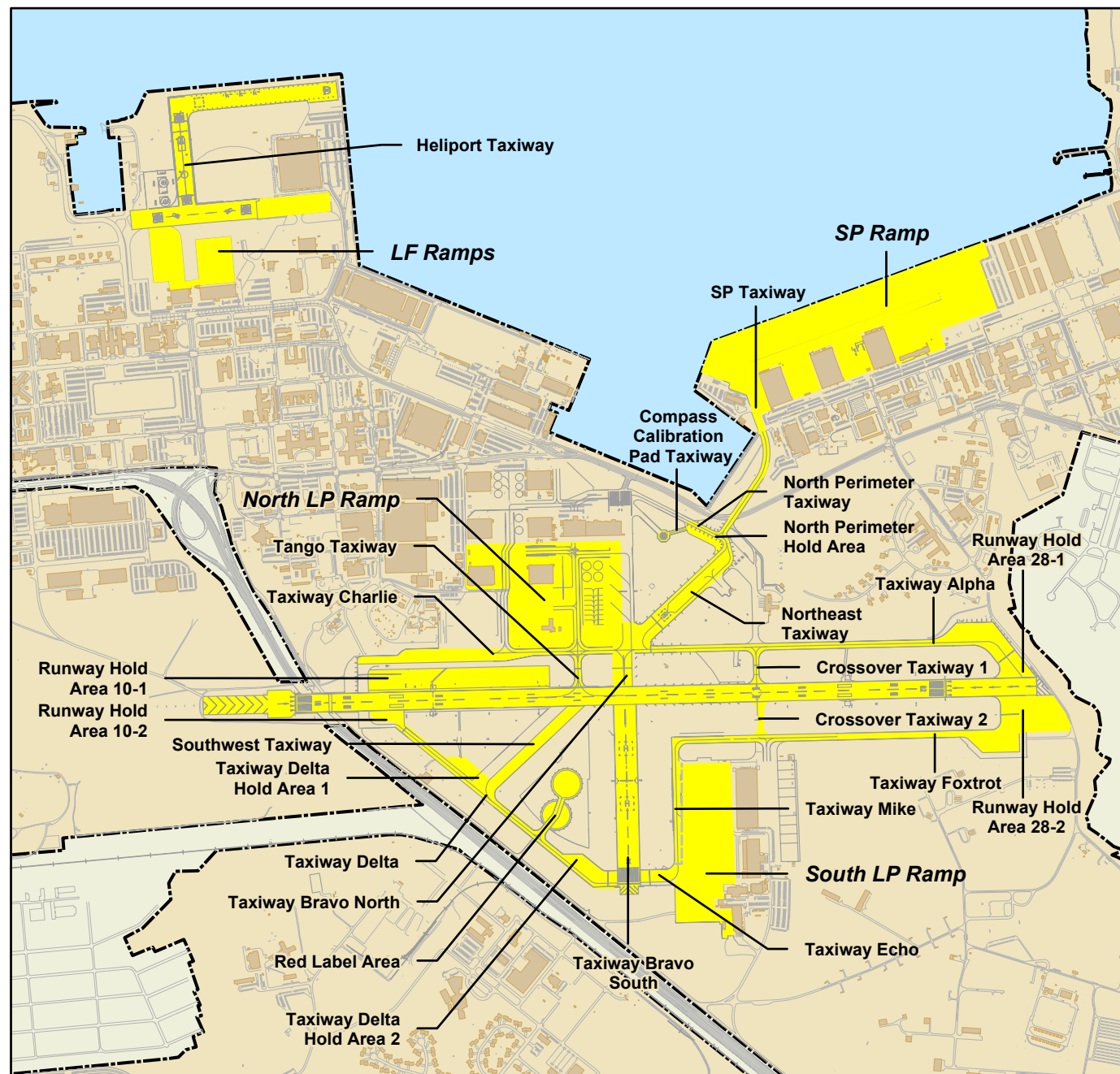


Figure 3-10
Chambers Field
Other Airfield Pavements



Feet
0 500 1,000 2,000

There are three (3) aircraft washrack pavements, SP 296, SP 13, and LP 35 at Chambers Field. SP 296 is located in the SP Area next to Hanger SP 35 and is currently operational. SP 13 is located in the SP Area between existing Hangars SP 1 and SP 2 and is currently inoperable. LP 35 is located in the LP (North) Area next to Hangar LP 21, and is currently inoperable.

As part of the Hangar Recapitalization of Chambers Field, SP 13 will be retained and renovated to an operational status. LP 35 will be demolished and replaced with a four (4) station washrack on the location of the old LP-12 hangar. Due to an increase in helicopter operational squadrons in the SP Area, a new two (2) aircraft washrack will be required in that area. (See Figure 3-14) Also, there is an increase in helicopter operational squadrons in the LF Area, and two (2) aircraft washrack will be required in that area.

The existing ordnance handling pad (NM-81) was constructed in 1994 to replace the Red Label Area. (See Figure 3-14) The ordnance handling pad is used to handle air shipments of ordnance where Air-Force type pallets are loaded and transported to magazines for storage. Ordnance that is received from offsite for air shipment is either stored in a magazine or kept in Truck Holding Yard NM-42. Using the holding yard as a staging area until the aircraft is ready allows the Atlantic Ordnance Command Detachment Sewells Point to avoid double handling ordnance for air shipment. Other than routine maintenance and repair, there are no anticipated changes required to the existing ordnance handling pad.

There is an existing towway between the Chambers Field aircraft operational areas LP, SP, V, and LF. A portion of the towway is a main automotive roadway (Admiral Taussig Boulevard). This towway is well maintained and other than routine maintenance, it is anticipated that no major changes are required to the towway.

There may be a need in the future for additional airfield pavements that do not currently exist at Chambers Field. With the introduction of the MH-60S aircraft at Chambers Field, there is the potential need in the future for a Combat Aircraft Loading Area (CALA) and Arming and De-Arming Pad

to support aircraft weapon systems loading and arming. If this becomes a need in the future, further investigation will be required to determine if Chambers Field has sufficient space for these pavements. It should be noted that the existing ordnance handling pad can be used as a CALA as well if sufficient clearance distances and scheduling will allow.

Additionally, since Chambers Field has or will have a large number of aircraft subject to accelerated corrosion due to low-level over-water operations and a corrosive atmosphere generated by the proximity to the Hampton Roads Harbor and Willoughby Bay, it is recommended that future needs include an aircraft rinse facility. The rinse facility should provide an unattended taxi-through, treadle operated, fresh water deluge system to rinse aircraft. A Type 1 facility will be sufficient to provide service to the rotary wing and fixed wing aircraft permanently assigned to Chambers Field.

3.6.2 Aircraft Maintenance Facilities

Naval aircraft maintenance is divided into three levels:

- Organizational
- Intermediate
- Depot

3.6.2.1 Organizational-Level Maintenance

Organizational-level maintenance is the most basic maintenance, consisting of day-to-day upkeep and repair tasks performed by the technicians assigned to the squadrons, and includes routine inspections and servicing, as well as removal and replacement of various aircraft components. This type of maintenance is done in a maintenance hangar. All Navy permanent party aircraft assigned to Chambers Field require maintenance hangars to provide weather protected shelter for the servicing and repair of aircraft at the organizational/squadron level.

In the late-1990's, a hangar recapitalization initiative commenced for Chambers Field. In an effort to reduce infrastructure costs and increase operational efficiencies, nine World War II era hangars located in both the SP and LP areas were identified for demolition. These hangars are to be replaced by five new state-of-the-art aircraft maintenance hangars. Table 3-15 shows a list of hangars to be demolished and their current status (as of September 2003).

Table 3-15 Hangar Recapitalization Plan (Hangar Demolition)

Facility Number	Current Status
LP-2	To be demolished in FY 2004 (P-522)
LP-3	To be demolished in FY 2005 (P-525)
LP-4	To be demolished in FY 2005 (P-525)
LP-12	To be demolished in FY 2004 (P-522)
LP-13	Demolished in FY 2002 (P-523)
SP-1	Construction start anticipated FY 2004 (P-526)
SP-2	Construction start anticipated FY 2004 (P-526)
SP-31	To be demolished in FY 2006 (P-524)
LP-14	To be demolished in FY 2006 (P-280)

Table 3-16 lists of the Military Construction projects related to the hangar recapitalization plan and their current status (as of September 2003).

**Table 3-16 Hangar Recapitalization Plan
(Military Construction Projects)**

Military Construction Project Number	Funded Fiscal Year	Facility Number	Current Status
P-522	2000	LP-27	Construction complete
P-523	2001	LP-21	Construction complete
P-524	2002	SP-35	Construction complete
P-525	2003	LP-48	Under construction
P-526	2004	LP-13	Construction start anticipated

For purposes of this plan, the existing hangars identified for demolition will not be counted as an existing asset; therefore, Chambers Field has seven Type I aircraft maintenance hangars with a capacity of 10.25 OH (Category Code 211-05) modules and 10.25 OS (a combination of Category Codes 211-06 and 211-07). Chambers Field also has one Type I aircraft maintenance hangar currently under construction and one Type II aircraft maintenance hangar due to start construction in early 2004 with a capacity of 1 OH module and 1 OS module each. The existing hangars are Buildings LF59, LF60, LP33, LP34, LP27, LP21 and SP35. The hangar under construction is Building LP48 and the hangar to be constructed in 2004 is located in the SP area (see Figures 3-6 and 3-13). Table 3-17 is a list of existing hangars and summary of O/H, O1 and O2 spaces. Table 3-18 shows the current aircraft maintenance hangar capacities and current permanent party aircraft assigned to each hangar at Chambers Field. Table 3-19 shows the current and projected hangar utilizations by organizations.

Table 3-17 Chambers Field Existing Hangars

Facility Number	Type	O/H Capacity	OS Capacity	O/H (211-05) (sf)	01 (211-06) (sf)	02 (211-07) (sf)
LF59	I	2.0	2.0	31,950	20,000	17,406
LF60	I	1.0	1.0	19,158	10,316	10,642
LP27	I	1.0	1.0	19,739	10,508	8,590
LP21	I	1.0	1.0	20,489	12,801	8,572
SP35	I	2.0	2.0	39,718	17,186	12,570
LP48	I	1.0	1.0	22,275	14,542	6,296
LP33	II	1.0	1.0	28,560	12,050	12,000
LP34	I	2.0	2.0	39,936	20,452	17,280
SP Hangar	II	1.0	1.0	31,020	13,060	10,045
LP167(1)	I	2.0	2.0	38,938	19,941	16,848
Chambers Field Totals	I	12.0	12.0	232,203	125,746	98,204
	II	2.0	2.0	59,580	25,110	22,045

Table 3-18 Current and Projected Chambers Field Hangar Requirements

Permanent Party		2003 Hangar Requirements						2015 Hangar Requirements					
Squadron	Type of Aircraft	Type	Modules		O/H (211-05)	01 (211-06)	02 (211-07)	Type	Modules		O/H (211-05)	01 (211-06)	02 (211-07)
			O/H	OS					O/H	OS			
HC-6	MH-60S	I	1.0	1.0	19,968	10,526	8,720	I	1.0	1.0	19,968	10,526	8,720
HC-8	MH-60S H-46	I	1.0	1.0	19,968	10,526	8,720	I	1.0	1.0	19,968	10,526	8,720
HC-2	H-3 MH-60S	I	1.0	1.0	19,968	10,526	8,720	I	1.0	1.0	19,968	10,526	8,720
HM-14	MH-53	II	1.0	1.0	28,560	13,886	12,080	II	1.0	1.0	28,560	13,886	12,080
VAW-120	E-2C C-2A	I	1.0	1.0	19,968	10,526	8,720	I	1.0	1.0	19,968	10,526	8,720
VAW-121	E-2C	I	0.5	0.5	9,984	6,518	5,640	I	0.5	0.5	9,984	6,518	5,640
VAW-123	E-2C	I	0.5	0.5	9,984	6,518	5,640	I	0.5	0.5	9,984	6,518	5,640
VAW-124	E-2C	I	0.5	0.5	9,984	6,518	5,640	I	0.5	0.5	9,984	6,518	5,640
VAW-125	E-2C	I	0.5	0.5	9,984	6,518	5,640	I	0.5	0.5	9,984	6,518	5,640
VAW-126	E-2C	I	0.5	0.5	9,984	6,518	5,640	I	0.5	0.5	9,984	6,518	5,640
VRC-40	C-2A	I	1.0	1.0	19,968	10,526	8,720	I	1.0	1.0	19,968	10,526	8,720
VAW-78	E-2C	I	0.5	0.5	9,984	6,518	5,640	I	0.5	0.5	9,984	6,518	5,640
VR-56	C-9 C-40A	II	1.0	1.0	28,560	13,886	12,080	II	1.0	1.0	28,560	13,886	12,080
HCS-4	HH-60H	I	1.0	1.0	19,968	10,526	8,720	I	1.0	1.0	19,968	10,526	8,720
MAG-42, Det. B	CH-46	I	1.0	1.0	19,968	10,526	8,720	I	1.0	1.0	19,968	10,526	8,720
HC-new	MH-60S	-	-	-	-	-	-	I	1.0	1.0	19,968	10,526	8,720
CV-1	MH-60S	-	-	-	-	-	-	I	1.0	1.0	19,968	10,526	8,720
CV-2	MH-60S	-	-	-	-	-	-	I	1.0	1.0	19,968	10,526	8,720
CV-3	MH-60S	-	-	-	-	-	-	I	1.0	1.0	19,968	10,526	8,720
CV-4	MH-60S	-	-	-	-	-	-	I	1.0	1.0	19,968	10,526	8,720
CV-5	MH-60S	-	-	-	-	-	-	I	1.0	1.0	19,968	10,526	8,720
Station	C-12	I	0.25	0.25	4,992	2,632	2,180	I	0.25	0.25	4,992	2,632	2,180
NADEP JAX	E-2C C-2A MH-60S	I	2.0	1.0	39,936	19,745	-	I	5.0	2.0	99,840	38,525	-
NAVSTA Norfolk (Chambers Field) Subtotals	I	12.25	11.25	244,608	135,167	97,060	I	21.25	18.25	424,320	217,103	149,380	
Less (-) Deployed Squadron(s)		II	2.0	2.0	57,120	27,772	24,160	II	2.0	2.0	57,120	27,772	24,160
		I	-0.5	-0.5	-9,984	-6,518	-5,640	I	-1.5	-1.5	-29,952	-17,044	-14,360
NAVSTA Norfolk (Chambers Field) Total		II	0	0	0	0	0	II	0	0	0	0	0
		I	11.75	10.75	234,624	128,649	91,420	I	19.75	16.75	394,368	200,059	135,020
		II	2.0	2.0	57,120	27,772	24,160	II	2.0	2.0	57,120	27,772	24,160

Future needs will generate a requirement for five (5) modules aircraft maintenance hangars. These five (5) modules will support the new MH-60S squadrons standing up at NAVSTA Norfolk Chambers Field. They include one (1) MH-60S expeditionary and five (5) MH-60S aircraft carrier (CV)-based squadrons. Since all MH-60S CV squadrons will be homeported at Chambers Field, it is assumed that one (1) will always be in a deployment status. Therefore, hangar space is provided for four (4) MH-60S CV squadrons only.

There is one event that will influence the final mix (Type I and/or Type I module(s)) of hangars to be constructed at Chambers Field. In the future, Naval Air Reserve Fleet Logistics Support Squadron, VR-56, will be transitioning from the current C-9 aircraft to the C-40A aircraft. This transition is anticipated to occur in the 2010 timeframe. The hangar currently housing VR-56 will not accommodate the new aircraft. In early 2003, a feasibility study was performed to determine the best engineering solution to modify the existing hangar, LP33, or build a new hangar to accommodate the C-40A aircraft. Five alternative concepts were developed and investigated for their feasibility and cost. They were:

Concept 1: Raise the roof of Hangar LP33 approximately 9 feet to allow the tail of the C-40A aircraft and tailstand to clear all obstructions. The concept still does not meet the clearance requirement between the aircraft and the hangar door. Major modifications to the hangar doors to include special sections to seal around the fuselage, foundation system, and electrical and mechanical systems would be required. Estimated construction cost is \$6.5M (excluding design and supervision, inspection and overhead (SIOH)) and would require the temporary relocation of VR-56.

Concept 2: This concept involves backing the aircraft straight into the center of the hangar, after the nose of the aircraft is raised utilizing a Nose Lift Dolly. The nose of the aircraft would still protrude through the hangar door. Three trusses and some of the bracing would be modified and framing added to provide a “dog house” for the tail and tailstand. Once the aircraft is in position,

the nose of the aircraft could be lowered and the tail would be parked in the “dog house”. The overhead crane would have to be modified or replaced. Estimated construction cost is \$1M (excluding design and supervision, inspection and overhead (SIOH)) and would require temporary relocation of VR-56.

Concept 3: This concept, similar to Concept 2, involves creating a “dog house” behind the current hangar bay, eliminating some of the current administrative and shop space (approximately 1,920 SF). This would allow the entire aircraft to fit in the hangar. Major modifications to the foundation system, roof structure, and electrical and mechanical systems would be required. Estimated construction cost is \$1.5M (excluding design and supervision, inspection and overhead (SIOH)) and would require the temporary relocation of VR-56.

Concept 4: This concept is the combination of Concept 1 and Concept 3, and is the only hangar reuse concept that meets all clearance requirements. Estimated construction cost is \$7.5M (excluding design and supervision, inspection and overhead (SIOH)) and would require temporary relocation of VR-56.

Concept 5: Build a new Type II hangar to accommodate the C-40A aircraft. Estimated construction cost is \$20M.

It should be noted that any alternative the involves raising the hangar will both increase the lateral and uplift wind loads. To adequately resist these increased load increases structural enhancements are required. Alternatives that involve raising the hangar have a projected cost greater than 50% of the equivalent of the new cost, so the existing hangar would have to be brought up to all current codes. This could add as much as \$2M.

The recommendation of the feasibility study is to provide a “dog house” in the existing Hangar LP33 administrative and shop areas (Concept 4), if the use of a nose wheel dolly is acceptable, waivers are obtained, disruptions of operations is permitted and remodeling of the administrative and shop spaces is workable. Otherwise, it was recommended to build a new Type

II hangar (Concept 5) to accommodate the new aircraft.

Carrying forward the recommendations of the VR-56 feasibility study, it is recommended that a new Type II hangar to accommodate VR-56 be constructed. It is further recommended that MAG-42 det. B relocate from LF-60 to LP-33 which will mix fixed wing and rotary-wing operations in the LP (North) area. MAG-42 det. B was chosen as the alternate user because they are a reserve squadron with limited operations during the week. They were also chosen so that the new MH-60S expeditionary squadron could be located in LF60 next to LF59 which is proposed to house the other two MH-60S expeditionary squadrons (See Table 3-19).

Under this plan it is proposed to construct four (4) modules of Type I and one (1) module of Type II aircraft maintenance hangar. These hangars will be configured as two (2) Type I double module hangars and one (1) Type II single module hangar. The two (2) Type I double module hangars will house the four (4) MH-60S CV squadrons and the one (1) Type II single module hangar will house VR-56. See Figure 3-17 for the proposed site plans.

Table 3-19 Permanent Party Current & Projected Hangar Utilization Plan for Chambers Field w/New Type II Hangar for VR-56

Squadron	Location Facility Number		Hangar Type	Hangar Capacity (Module)		Hangar Capacity (SF)		Requirement (Module)				Requirement (SF)			
								O/H		OS		O/H		OS	
	2003	2015		O/H	OS	O/H	OS	2003	2015	2003	2015	2003	2015	2003	2015
HC-6	LF59	LF59	I	1	1	15,975	18,703	1	1	1	1	19,968	19,968	19,246	19,246
HC-8	LF59	LF59	I	1	1	15,975	18,703	1	1	1	1	19,968	19,968	19,246	19,246
HC-2	SP35	SP35	I	1	1	19,859	14,878	1	1	1	1	19,968	19,968	19,246	19,246
HM-14	SPxx	SPxx	II	1	1	31,020	23,105	1	1	1	1	28,560	28,560	25,966	25,966
VAW-120	LP34	LP34	I	1.5	1.5	29,952	28,299	1.0	1.0	1.0	1.0	19,968	19,968	19,246	19,246
VAW-121	LP34	LP34	I	0.5	0.5	9,984	9,433	0.5	0.5	0.5	0.5	9,984	9,984	12,158	12,158
VAW-123	Deployed	Deploye						NR	NR	NR	NR	NR	NR	NR	NR
VAW-124	LP21	LP21	I	0.5	0.5	10,245	10,687	0.5	0.5	0.5	0.5	9,984	9,984	12,158	12,158
VAW-125	LP27	LP27	I	0.5	0.5	9,870	9,549	0.5	0.5	0.5	0.5	9,984	9,984	12,158	12,158
VAW-126	LP27	LP27	I	0.5	0.5	9,869	9,549	0.5	0.5	0.5	0.5	9,984	9,984	12,158	12,158
VRC-40	LP48	LP48	I	1	1	22,275	20,838	1	1	1	1	19,968	19,968	19,246	19,246
VAW-78	LP21	LP21	I	0.5	0.5	10,244	10,686	0.5	0.5	0.5	0.5	9,984	9,984	12,158	12,158
VR-56	LP33	New	II	0.75	0.75	21,420	18,038	1	1	1	1	28,560	28,560	25,966	25,966
HCS-4	SP35	SP35	I	1	1	19,859	14,878	1	1	1	1	19,968	19,968	19,246	19,246
MAG-42, Det. B	LF60	LP33	I	1	1	19,158	20,958	1	1	1	1	19,968	19,968	19,246	19,246
HC-new	NR	LF60	I					0	1	0	1	0	19,968	0	19,246
CV-1	NR	New	I					0	1	0	1	0	19,968	0	19,246
CV-2	NR	New	I					0	1	0	1	0	19,968	0	19,246
CV-3	NR	New	I					0	1	0	1	0	19,968	0	19,246
CV-4	NR	New	I					0	1	0	1	0	19,968	0	19,246
CV-5	NR	Deploye						NR	NR	NR	NR	NR	NR	NR	NR
Station	LP33	LP33	II	0.25	0.25	7,140	6,012	0.25	0.25	0.25	0.25	4,992	4,992	4,812	4,812
NADEP JAX	LP167	New	I	2	2	38,938	36,789	2	5	1	2	39,936	99,840	19,745	38,505
Hangar Totals			I	12	12	232,203	223,950	11.75	19.75	10.75	16.75	234,624	394,368	220,069	335,079
			II	2	2	59,580	47,155	2	2	2	2	57,120	57,120	51,932	51,932

3.6.2.2 Intermediate-Level Maintenance

Complex aircraft component repairs are conducted at an Aircraft Intermediate Maintenance Division (AIMD) by specialized technicians who repair the inoperative components that the organizational-level maintenance personnel have removed from aircraft.

At Chambers Field the AIMD provides repair, manufacture, test and check of aircraft components and associated support equipment focused primarily on the Aircraft Early Warning (AEW) and Helicopter Wing aircraft. Currently AIMD Norfolk is housed in several buildings located in the SP, LP, and V areas. A new AIMD at Chambers Field is currently under construction (FY 2003 Military Construction Project P-280) in the SP area and will consolidate functions into a single AIMD complex. Several of the existing AIMD buildings will be demolished and/or turned over for other uses. Table 3-20 shows existing AIMD facilities and their function as well as current status. Figure 3-17 shows existing and proposed AIMD facilities

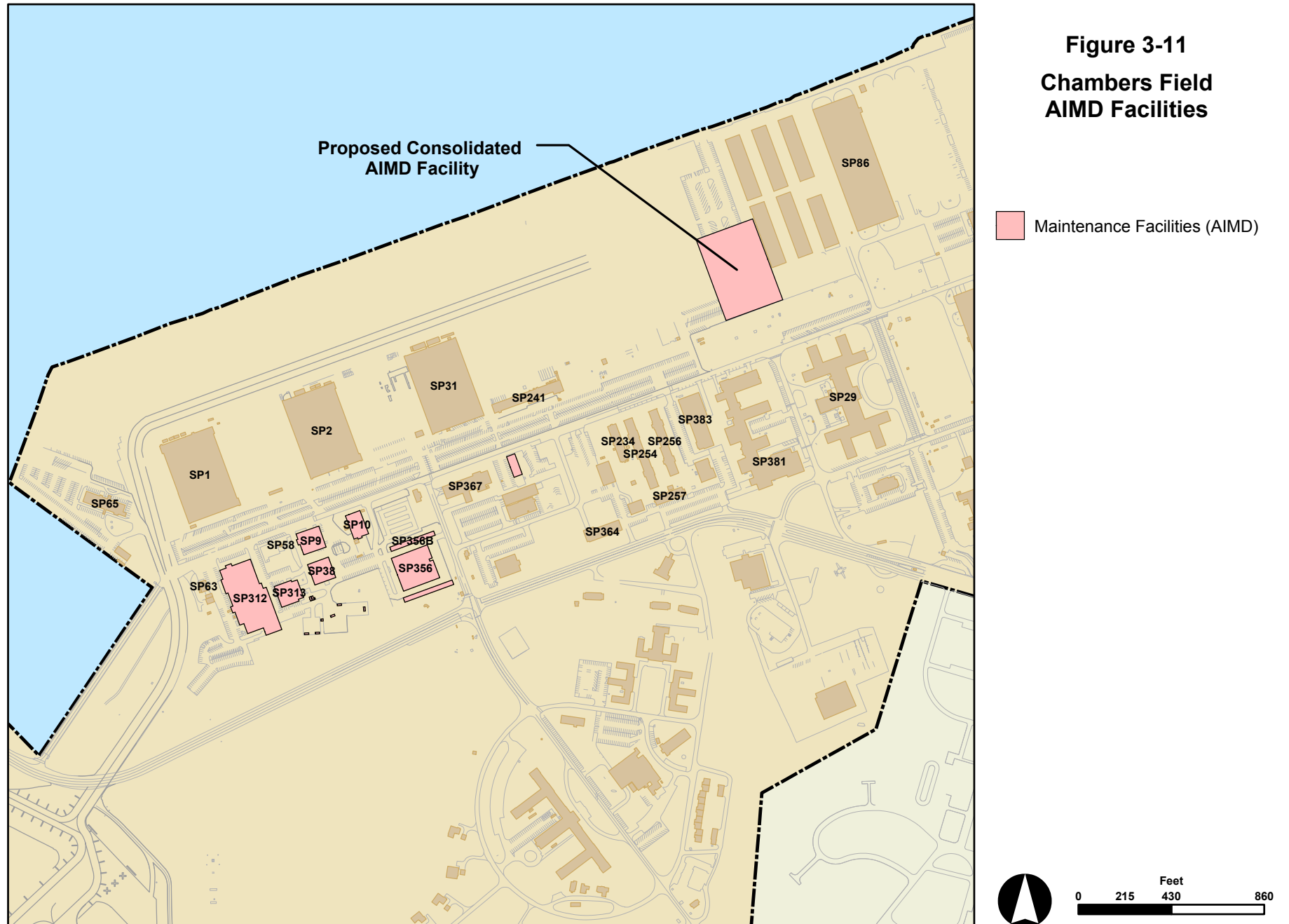
Because of the new AIMD facility is projected for completion in 2005, it is anticipated that no additional AIMD facilities will be required to support future requirements at Chambers Field.

Table 3-20 AIMD Facilities

CATEGORY CODE	Facility Number	Designation	U/M	Total Quantity	Current Status
211-08	LP-14	Airframes Shop	SF	64,200	To be demolished (P-280)
211-94	LP-200	Aircraft Power Check Pads	SF	16,200	Adequate
211-08	LP-31	Airframes Shop (A/C Plant)	SF	150	To be demolished (P-280)
211-08	LP-32	Airframes Shop (HAZFLAM)	SF	392	To be demolished (P-280)
211-21	SP-10	Engine Shop	SF	10,442	To be demolished (P-280)
211-21	SP-38	Engine Shop	SF	10,328	To be demolished (P-280)
211-96	SP-66	Aircraft Spare Storage (Maint.)	SF	130	To be demolished (P-280)
211-75	SP-234	Parachute/Survival Equipment Shop	SF	6,920	To be demolished (P-280)
218-50	V-45	Battery Shop	SF	1,343	To be demolished (P-280)
211-54	SP-123	Aviation Armament Shop	SF	12,040	To be turned over for other uses.
211-21 211-45 211-96 610-10	SP-312	Engine Shop Avionics Shop Aircraft Spares Storage, Maint. AIMD Admin.	SF SF SF SF	6,100 31,332 7,068 2,100	To be turned over for other uses.
211-21	SP-313	Engine Shop	SF	10,800	To be turned over for other uses.
211-88	SP-369	Power Check Pad w/ Sound Suppression	EA	1	Substandard
218-60	SP-356	GSE Shop	SF	21,716	Adequate
218-61	SP-357	GSE Holding Shed	SF	4,300	Adequate
218-61	SP-358	GSE Holding Shed	SF	8,600	Adequate

Table 3-21 Military Construction Project P-280, Consolidated AIMD

CATEGORY CODE	Designation	U/M	Total Quantity
211-08	Airframes Shop	SF	24,335
213-58	AMCM Sled Maintenance	SF	10,000
211-21	Engine Shop	SF	34,836
211-96	Aircraft Spare Storage (Maint.)	SF	6,738
211-75	Parachute/Survival Equipment Shop	SF	8,693
610-10	AIMD Admin	SF	16,738
211-54	Aviation Armament Shop	SF	4,303
211-45	Avionics Shop	SF	37,880
P-280 Consolidated AIMD Total		SF	143,523



3.6.2.3 Depot-Level Maintenance

Depot-level maintenance is the most complex level of maintenance and includes major aircraft overhaul, modifications, upgrades, and repair of major airframe damage.

While Chambers Field does not have a Naval Aviation Depot (NADEP), hangar space is required to facilitate depot artisan field teams to perform on-site integrated maintenance concept (IMC) repair, aircraft modifications (MOD), and squadron-requested planner and estimator repair to damaged aircraft, also known as in-service repair (ISR). Currently, IMC and ISR is performed at Chambers Field by a permanent detachment of personnel from NADEP Jacksonville, Florida. The IMC and ISR program includes the E-2C and C-2A aircraft. In the future, the program will expand to include the H-60S aircraft. The MOD is performed in government provided spaces at Chambers Field, by contractor personnel and includes the E-2C and C-2A aircraft.

MOD and ISR spaces are currently located in Hangar LP-4. LP-4 is currently scheduled for demolition in FY 2005 under the hangar recapitalization plan for Chambers Field. The IMC spaces are currently located in Hangar LP-167. The NADEP Jacksonville detachment currently occupies approximately one-half of this hangar. The other half of the hangar is currently used by the Air Cargo terminal personnel primarily for vehicle and loader maintenance.

Hangar LP-167 is currently under a Naval Air Systems Command (NAVAIR) waiver that permits the building to penetrate the transition slope south of Runway 10/28. The penetration is approximately 45 feet. Hangar LP-167 also creates a line-of-sight obstruction for the new air traffic control tower, LP-212, to certain aircraft taxiing areas in the LP (South) Area.

Future requirements for NADEP Jacksonville detachment will grow with the stand-up of the MH-60S aircraft at Chambers Field. With the increase of space required, it is proposed that a new IMC/ISR and MOD hangar be constructed in the V Area and Hangar LP-167 be demolished. It should be noted that the timing of Hangar LP-167 demolition is also dependent upon the construction of a new air cargo facility that will relocate the additional

current occupants of the hangar.

3.6.3 Other Ancillary Airfield Assets

3.6.3.1 Aircraft Fueling and Dispensing Facilities

Aircraft fueling at Chambers Field is currently done by refueller trucks. The service is provided by the Regional Fuels Division of the Regional Supply Office (RSO) Norfolk. Refueller trucks are dispatched to aircraft refueling areas in the LF and LP (North) areas for the permanently assigned aircraft at Chambers Field. Table 3-32 lists fuel facilities at Chambers Field. Refueller trucks are dispatched to the LP (South) area to service transient aircraft. The aviation fuel storage tanks, truck fill stands, and dispatch office are located at the fuel farm in the LP (North) area west of the operational aircraft parking area. The fuel farm is fed, via pipeline, from Craney Island Fuel Depot. The fuel tanks at the fuel farm are 70 years old and are too close to the runway.

Consistent with the CNRMA Logistics Regional Shore Infrastructure Plan the following recommendations regarding aircraft fueling are considered critical for future aircraft operations at Chambers Field:

- a. Due to the increased rotary wing activity in the future, it is recommended that the aircraft refueling areas in the LF area be relocated to the LP (North) area. A drive-thru aircraft hydrant refueling system is proposed with three (3) refueling lanes (See Figure 3-12).
- b. Due to the aging infrastructure and airfield safety concerns, recapitalize and relocate the fuel farm in the 2015-2020 timeframe.

Table 3-22 Chambers Field Fueling and Dispensing Facilities

Category Code	Facility Number	Designation	U/M	Total Quantity	Condition
121-20	LP43	Aircraft Truck Fueling Facility (Fuel Farm)	GM/OL	400 / 0	Adequate
121-20	LP45	Aircraft Truck Fueling Facility (Fuel Farm)	GM/OL	2 / 275	Adequate
121-20	LP47	Aircraft Truck Fueling Facility (Fuel Farm)	GM/OL	2 / 275	Adequate
124-30	LP39	Aircraft Ready Fuel Storage (Fuel Farm)	GA	235,516	Adequate
124-30	LP40	Aircraft Ready Fuel Storage (Fuel Farm)	GA	225,680	Adequate
124-30	LP41	Aircraft Ready Fuel Storage (Fuel Farm)	GA	555,415	Inadequate
124-30	LP42	Aircraft Ready Fuel Storage (Fuel Farm)	GA	553,440	Inadequate
124-30	LP38	Aircraft Ready Fuel Storage (Fuel Farm)	GA	300,000	Adequate

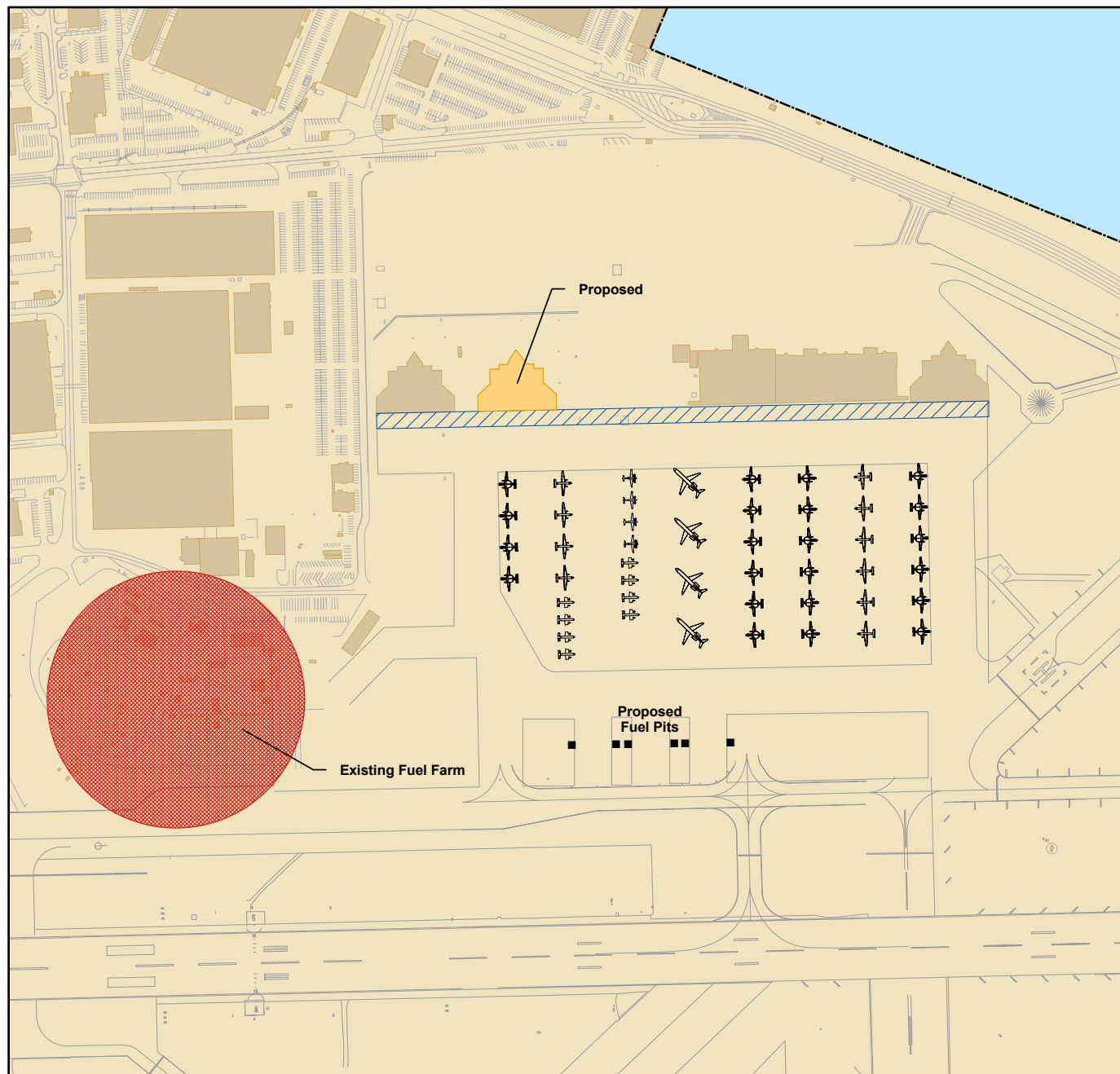
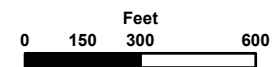


Figure 3-12
Chambers Field
Aircraft Fuel Facilities



3.6.3.2 Communications and Navigation Aids

The airfield transmitter building is NM71 and the airfield receiver building is NM74. SP77 is the Tactical Air Navigation (TACAN) building that houses UHF transmitting equipment which provides omnidirectional azimuth and distance information to aircraft in flight. TACAN is primarily a military short-range navigational aid. The Ground Control Approach (GCA) system, LP165, is located mid-field and provides guidance to aircraft approaching and landing at Chambers Field under all weather conditions. The system employs electronic equipment which will land aircraft automatically, will display signals in the aircraft allowing the pilot to fly the aircraft to the minimums in effect, or will display information for an approach controller on the ground who will talk the pilot in. Chambers Field employs the precision approach radar (PAR). All facilities are considered adequate to support future airfield requirements. It should be noted that with the increase in commercial aircraft carriers being employed by the Department of Defense it is recommended that an Instrument Landing System (ILS) or Global Positioning System (GPS) Landing System be installed at Chambers Field in the future. A detailed site survey should be performed to determine the proper placement of the system.

The Radar Air Traffic Control Center (RATCC) that is used to control air traffic to provide safe, expeditious, and orderly movement of aircraft under all weather conditions is located in Building LP212. Building LP212 was built in 2001 and is considered adequate for future air traffic control needs.

Runway 10/28 has high intensity runway edge lighting. Runway 10 has standard 2,400 foot high intensity approach lighting system with centerline sequenced flashers. Runway 28 has a short approach lighting system. Runways 10 and 28 have centerline lights. There is a Precision Approach Path Indicator (PAPI) system on Runway 10/28. LP214 is the PAPI for Runway 10 and LP215 is the PAPI for Runway 28. The runway lighting system is considered adequate for the future needs of Chambers Field.

3.6.3.3 Air Traffic Control Tower

There are two (2) operating control towers at Chambers Field. The main control tower is located in Building LP212. The second tower, Building

LAG110, primarily controls rotary wing aircraft movements in the LF area. Building LP212 was built in 2001 and is considered adequate for the future needs of Chambers Field to control aircraft movements primarily in the LP (North and South) areas and the main fixed wing runway. However, with the future need to increase of rotary wing aircraft operations in the LF and SP areas, it is proposed that LAG110 be demolished and a new tower be constructed to control aircraft movements in the LF and SP areas. The proposed location of the new tower is shown on Figure 3-15. It should be noted that, at the time of project development, a detailed site analysis should be performed to ensure proper siting with regard to line-of-sight requirements.

3.6.3.4 Air Passenger and Air Cargo Terminal

The Navy Air Terminal provides both air cargo and air passenger service for the US military. The Navy Air Terminal hosts the Air Mobility Command (AMC) whose primary mission is rapid, global mobility and sustainment for America's armed forces. Service areas include the North Atlantic, Mediterranean, Southwest Asia and the Caribbean. Chambers Field is one of the largest and busiest AMC facilities in the country with over 9,000 passengers and 3,500 tons of cargo handled each month. A new air passenger terminal, Building LP210, was completed in 2000 and is considered adequate for the air passenger terminal future needs of Chambers Field. (See Figure 3-9) The air cargo terminal is located in several buildings in the LP (South) area. (Figure 3-9)

Consistent with the CNRMA Logistics Regional Shore Infrastructure Plan the following recommendations regarding air cargo terminal are considered critical for future operations at Chambers Field:

- a. Due to the deteriorated nature of the majority of the air cargo terminal facilities and the need for additional space, it is recommended that a new consolidated air cargo terminal be built in proximity to the existing air cargo facilities in the LP (South) area. (See Table 3-23 and Figure 3-9).

Table 3-23 Chambers Field Air Cargo Facilities

Facility Number	Category Code	Designation	U/M	Total Quantity	Condition
LP205	141-12 143-35	Air Freight Terminal Reg. Publication Issue Office	SF SF	61,275 475	Adequate Adequate
LP117	141-12	Air Cargo Terminal	SF	34,749	Inadequate
LP116	141-12	Air Cargo Terminal	SF	2,400	Inadequate
LP204	141-12	Air Cargo Terminal	SF	2,312	Inadequate
LP167	141-12	Air Cargo Terminal	SF	82,504 (1)	Inadequate

3.6.3.5 Air Operations Building

Airfield operations at Chambers Field are provided by a detachment of NAS Oceana. The NAS Oceana Air Detachment Norfolk provides and operates airfield and heliport facilities. The Air Detachment is broken down into several divisions. They include administrative, air traffic control, airfield management, ground electronics maintenance (GEMD), transient line, and UC-12B/M fleet replacement school (FRS). The administrative, air traffic control, and airfield management divisions are all located in Building LP212. Building LP212 was built in 2001 and is considered adequate for the future needs of the Air Detachment. The transient line and FRS are located in Hangar LP33. A small contingent of the transient line division is also located in Hangar LP167 to assist with the movement of AMC aircraft in the LP (South) area. GEMD is located in the airfield transmitter Building NM71. Both Hangar LP33 and Building NM71 are considered adequate for the future needs in the Air Detachment.

Due to the fact that Hangar LP167 is currently under a NAVAIR airfield safety waiver that permits the building to penetrate the transition slope south of Runway 10/28, it is proposed that the facility be demolished at some point in the future. Hangar LP167 also creates a line-of-sight obstruction for the air traffic control tower, LP212, for certain aircraft taxiing areas in the LP(South) area. Since Hangar LP167 is a multiple-user facility, the timing of demolition will be dependent upon the construction of both a new air cargo facility and depot-level maintenance facility for NADEP Jacksonville detachment Oceana. It is proposed that a new transient line facility be constructed either as a stand-alone facility in proximity to LP212 or as part of the proposed air cargo facility.

The airfield management division is also responsible for ensuring that all Distinguished Visitors and guests of the Navy are accorded appropriate courtesies commensurate with rank and/or title. As such, the flight information division also maintains the Operational Support Aircraft (OSA) terminal located in Building LP1 (a.k.a LP51). Building LP1 was built in 2003 and is considered adequate for the future needs of the Air Detachment. However, due to its proximity to the operational flightline, once access has been improved to the south side of the airfield with the proposed I-564 off/on-ramp, long-term consideration should be given to

relocating the OSA terminal to the LP (South) area near the existing air passenger.


3.6.3.6 Aviation Training Facilities

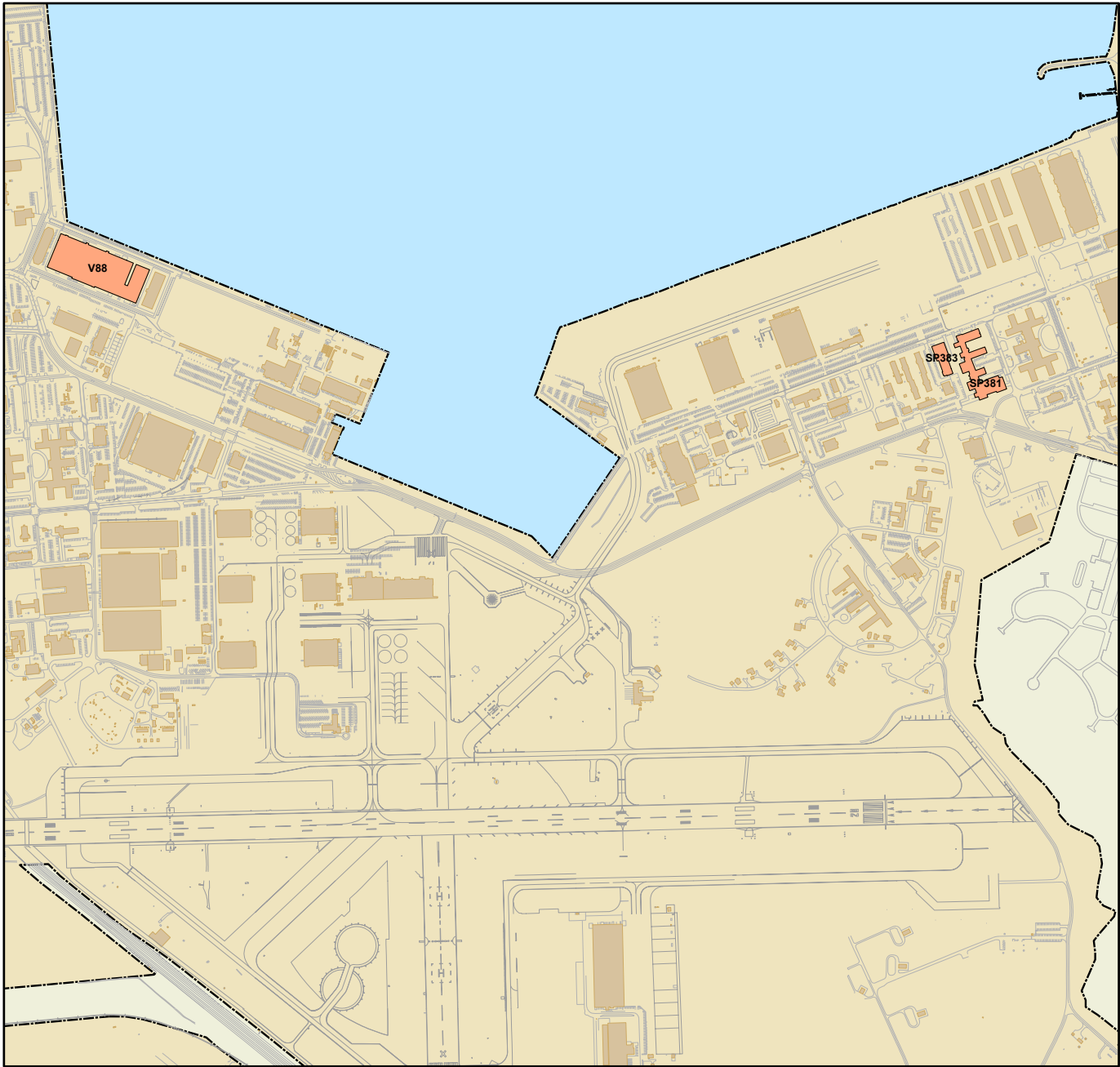
NAVSTA Norfolk is a primary training location for the Helicopter and the Airborne Early Warning Wings. As part of the FRS squadron for each aircraft type, classroom space and aircraft simulators are located primarily in the SP Area.

Naval Station Norfolk will become a major training center for the MH-60S aircraft. A complete suite of maintenance and aircrew trainers is planned for the Wing and for Naval Maintenance Training Unit (NAMTRAU). Some of the maintenance training devices will come from the NAS Jacksonville and NAVSTA Mayport activities as they consolidate their maintenance training. The NAMTRAU is suppose to receive an Avionics Maintenance Trainer (AMT) for the MH-60S from NAS North Island, after NAS North Island receives the MH-60R/S AMT in 2004. NAVSTA Norfolk is also scheduled to receive three Weapons Tactical Trainers (WTT). These devices will simulate the aft compartment of the MH-60S, and will be used to train the enlisted aircrew. The AMT is planned for installation in the addition to building SP-381. The remaining maintenance training devices and WTTs will be located in the same general location, however the detail of specific locations is to be determined.

Training facilities for the AEW and Helicopter assets and the adjacent airspace provide the AEW and Helicopter wings with their primary land based training venue that allow pilots to qualify for Category I, II and III training. In addition, Chambers Field is the home to a UC-12B/M Aircraft Fleet Replacement School (FRS) providing pilot and aircrew training in support of all USN East Coast and European C-12 units. Facilities used for the training missions for the wings are concentrated in the SP area and are depicted in Figure 3-13.

Figure 3-13
Chambers Field
Training Facilities

 Training Facilities



3.10 Development Plan for NAVSTA Norfolk Chambers Field

In the Region, NAVSTA Norfolk Chambers Field will remain a vibrant airfield with a projected increase in annual operations in the future. The majority of the projected increase in future operations will come primarily from the introduction of the H-60S at Chambers Field. The plan focuses on mitigation of airfield safety and operational conflicts and includes construction of new facilities to support new mission requirements as well as demolition of existing facilities. The following actions support the future needs for NAVSTA Norfolk Chambers Field:

3.10.1 East Coast Home Base for the MH-60S Helicopter

- Construct a two-module aircraft maintenance hangar (P-699) for two operational MH-60S CV squadrons in the SP area.
- Construct a two-module aircraft maintenance hangar (P-767) for two operational MH-60S CV squadrons in the LF area.
- Relocate MAG-42 Det. B to Hangar LP33 and renovate Hangar LF60 for one operational MH-60S Expeditionary squadron.
- Construct two new lighted standard VFR helicopter landing pads with same direction ingress/egress in the SP area.
- Construct an MH-60S Training Facility in SP area (two phases (P-705, Phase I and P-707, Phase II)
- Develop the LF area as a helicopter operations area only
 - ❖ Relocate COMNAVAIRLANT aircraft boneyard
 - ❖ Relocate PWC vehicle storage yard
 - ❖ Relocate COMNAVAIRLANT ship crane maintenance.
 - ❖ Relocate FTSCLANT and demolish LF-18
 - ❖ Construct two hover check pads with access taxiways (P-757) in the LF area
 - ❖ Construct Compass Rose in the LF area (requires relocation of existing fuel pits).
 - ❖ Extend Runway 09/26 (Right) to the east to enhance helicopter training opportunities.

3.10.2 Logistics Support Squadron Aircraft Upgrade

- Construct a one-module Type II aircraft maintenance hangar for VR-56.

3.10.3 Reduce airfield safety and operational incompatibilities

- Demolish LP-167
- Relocate Operational Support Aircraft (OSA) terminal in proximity to existing air passenger terminal.

3.10.4 Enhance Operations

- Construct a new control tower to control helicopter operations in the LF and SP areas.
- Construct three refueling hydrants in the LP area to service both fixed wing and rotary wing aircraft.
- Construct a new consolidated air cargo facility.
- Construct an IMC/ISR/MOD hangar to consolidate all NADEP Jacksonville detachment Oceana and Contractor-provided maintenance requirements for E-2C, C-2A, and MH-60S aircraft.
- Install a new Instrument Landing System (ILS) *or* Global Positioning System (GPS) Landing System on Runway 10/28.

Table 3-24 Military Construction Projects for Chambers Field

Priority	Project Number	Project Description	Planning Action	Area (Square Feet)	Program Year (FY)	Cost (\$ooo)
UC	P-525	Aircraft Hangar LP-48	Construct		2003	
UC	P-526	Aircraft Hangar LP-13	Construct		2004	
UC	P-280	Consolidated AIMD Facility in the SP area	Construct		2003	
1	P-417	Addition to SP-381 for MH-60S Simulator	Construct	3,840	2004	\$1,340
2	P-705	Aircrew Training Facility (MH-60S) Demolish SP238	Construct Demolish	37,138 5,992	2006	\$12,925
3	P-699	Aircraft Maintenance Hanger (MH-60S CV Squadrons)	Construct	78,386	2006	\$26,553
4	P-014	Aircrew Training Facility (E-2C-VAW-120)	Construct	17,041	2007	\$4,775
5a	P-491	Hanger LP33 Modification	Modify			
5b	P-491	VR-56 Aircraft Maintenance Hanger 1-Module/Type II Hanger	Construct	53,916	2006	\$16,200
6	P-707	Aircrew Training Facility Addition (MH-60S) Demolish Bldgs SP373 and SP267	Construct Demolish	22,528 10,974	2008	\$6,837
7	P-767	Aircraft Maintenance Hanger (MH-60S CV Squadrons)	Construct	78,386	2008	\$26,586
8	P-761	Piped Refueling Facility and Birdbath	Construct		2008	\$3,500
9	P-751	Aircraft Maintenance Hanger (MH-60S/E-2C/C-2A IMC)	Construct	150,618	2010	\$23100

Table 3-25 Special Projects for Chambers Field

Priority	Project Number	Project Description	Planning Action	Area (sq. ft.)	Program Year	Cost (\$ooo)

Table 3-26 Demolition Projects for Chambers Field

	Facility Number				Current Status
	LP-2				To be demolished in FY 2004 (P-522)
	LP-3				To be demolished in FY 2005 (P-525)
	LP-4				To be demolished in FY 2005 (P-525)
	LP-12				To be demolished in FY 2004 (P-522)
	LP-13				Demolished in FY 2002 (P-523)
	SP-1				Construction start anticipated FY 2004 (P-526)
	SP-2				Construction start anticipated FY 2004 (P-526)
	SP-31				To be demolished in FY 2006 (P-524)
	LP-14				To be demolished in FY 2006 (P-280)

Figure 3-14
Development Plan
LF Area

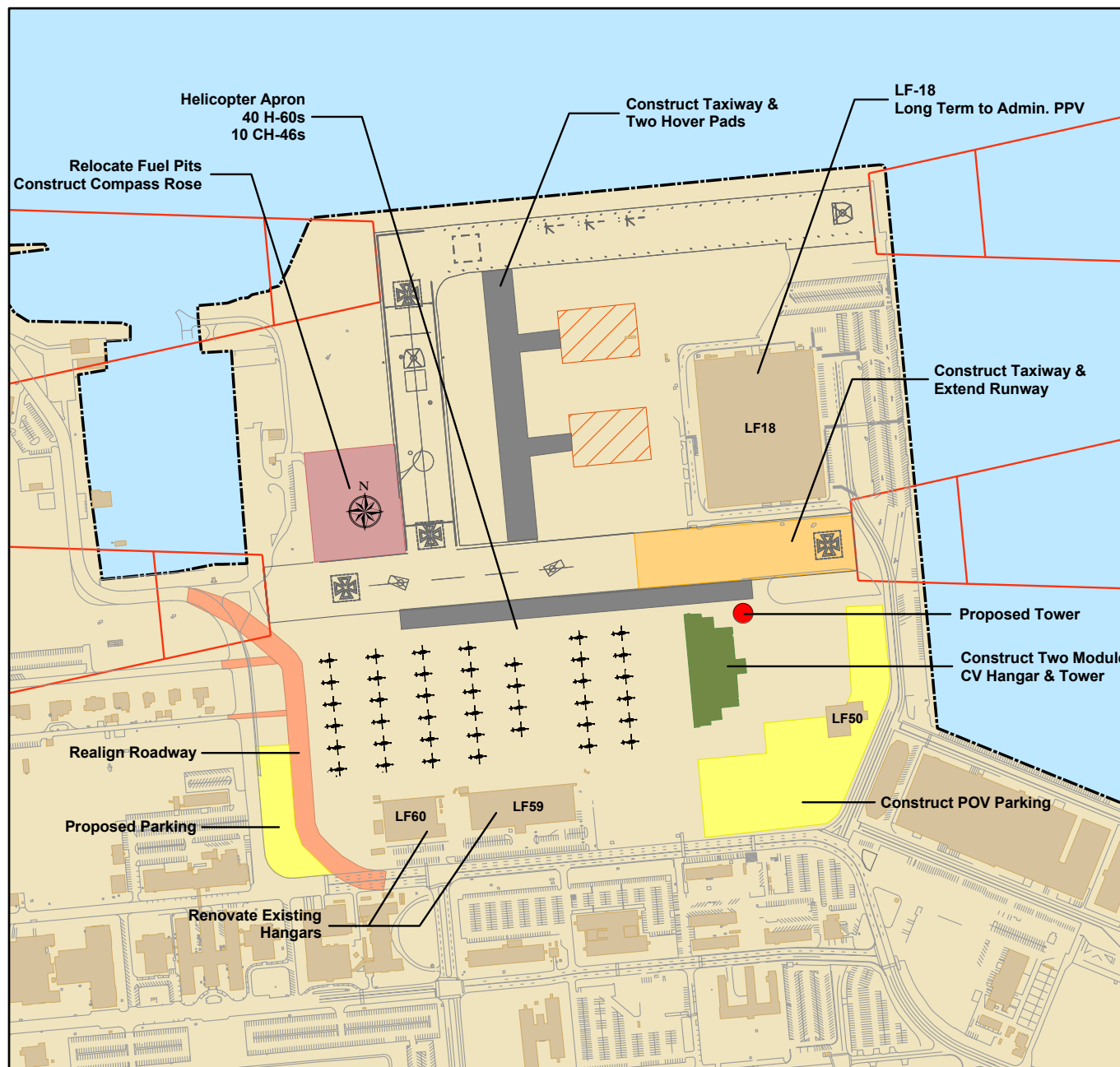
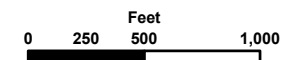
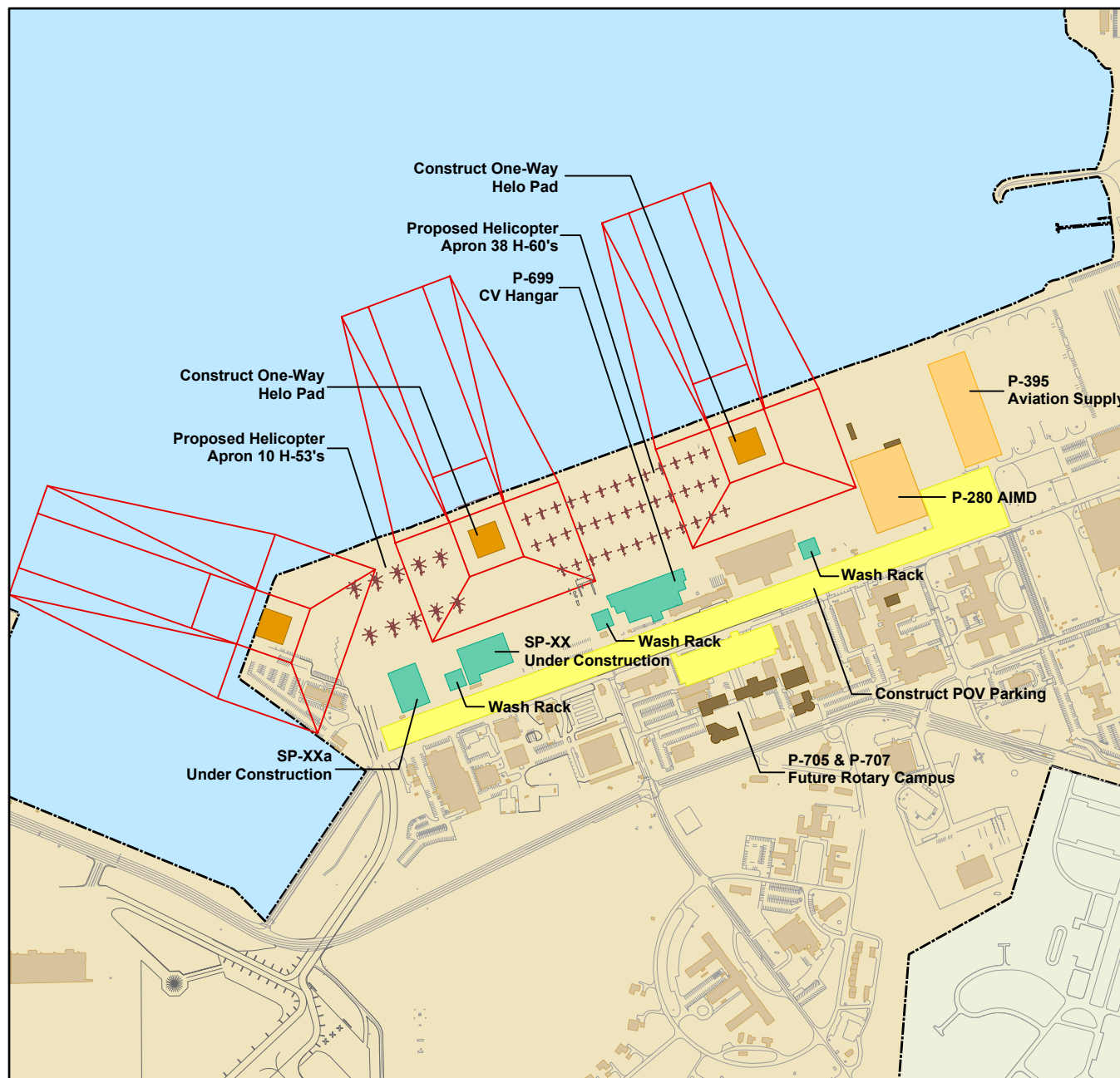
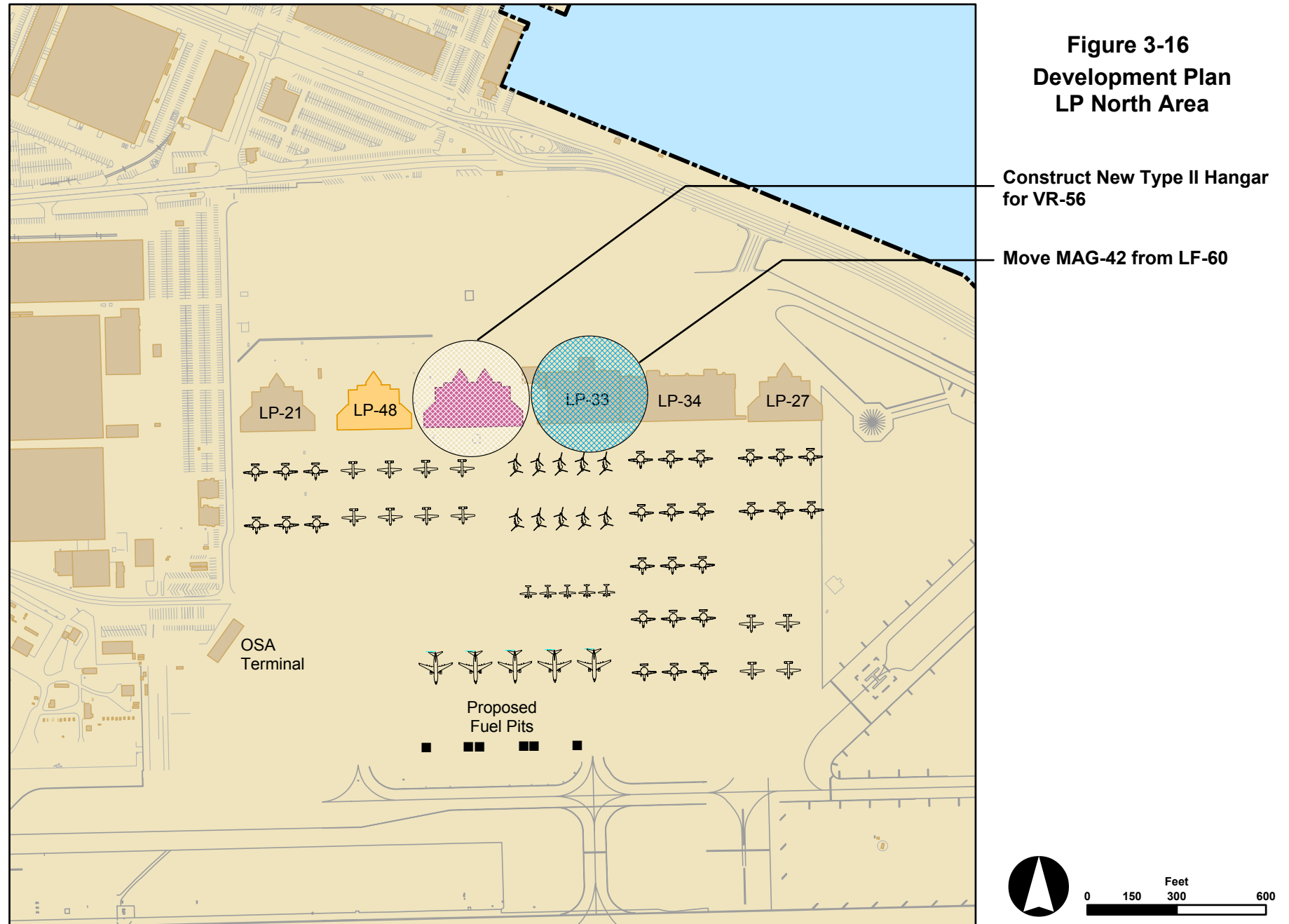


Figure 3-15
Development Plan
SP Area





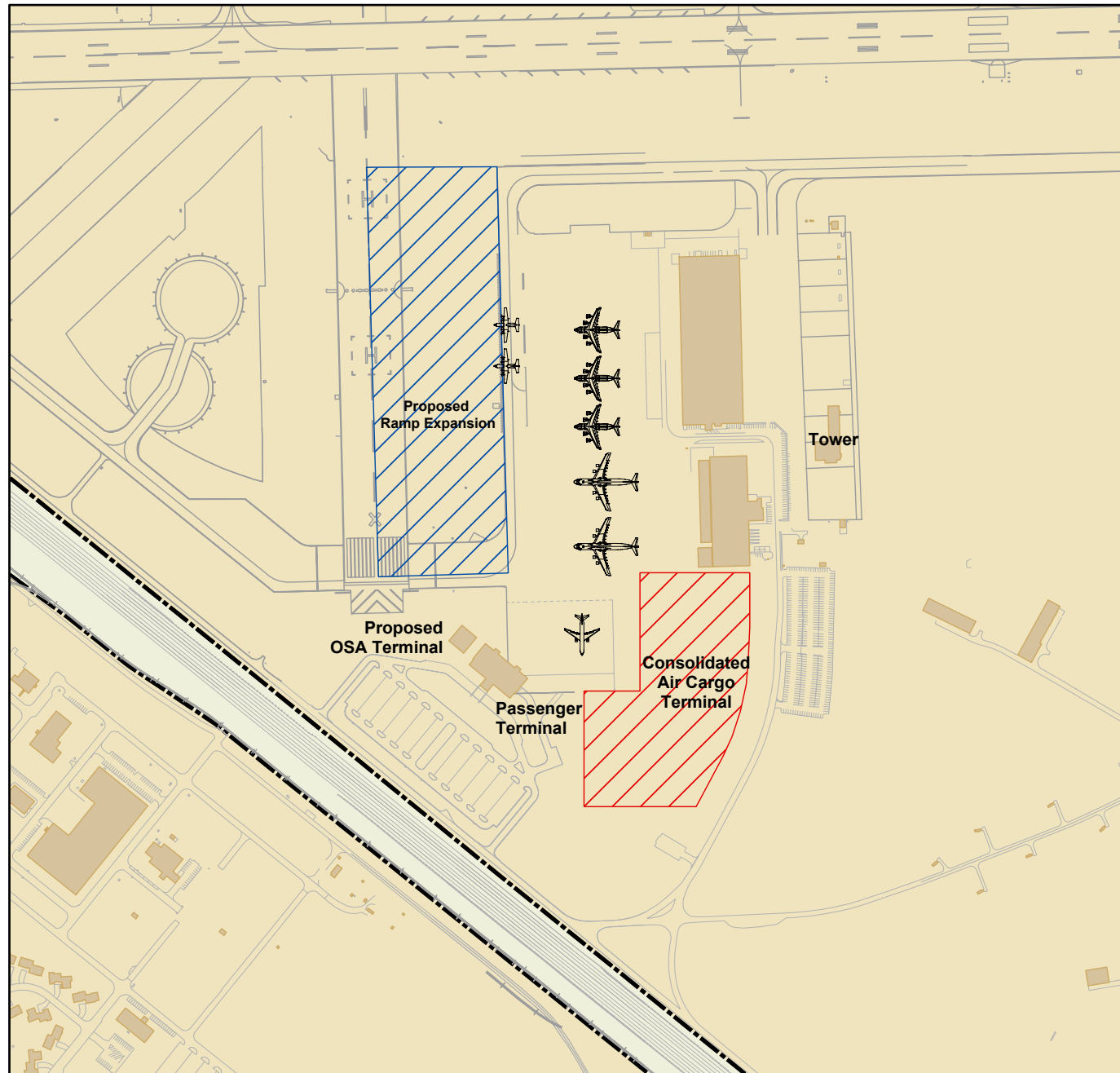


Figure 3-17
Development Plan
LP South Area

